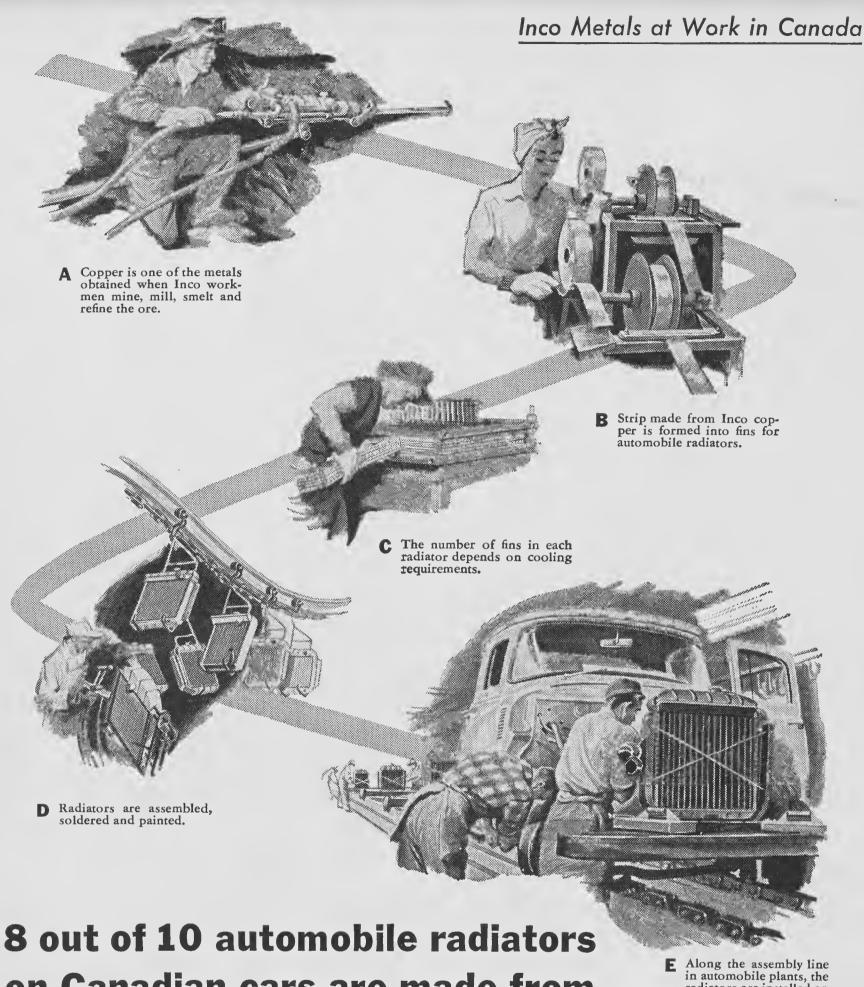
THE COUNTY GUIDE

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radiators are installed on cars and trucks.

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- 3. The copper strip goes to Canadian automobile radiator manufacturers where it is formed into tube for the production of radiators. More people are employed
- 4. Along the assembly lines of the automobile companies, Canadian workmen install these radiators on cars and trucks.

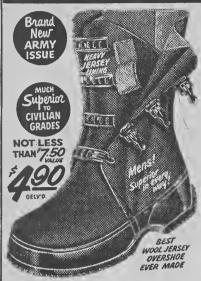
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[Paul Hadley photo

From Cover to Cover NOVEMBER, 1956

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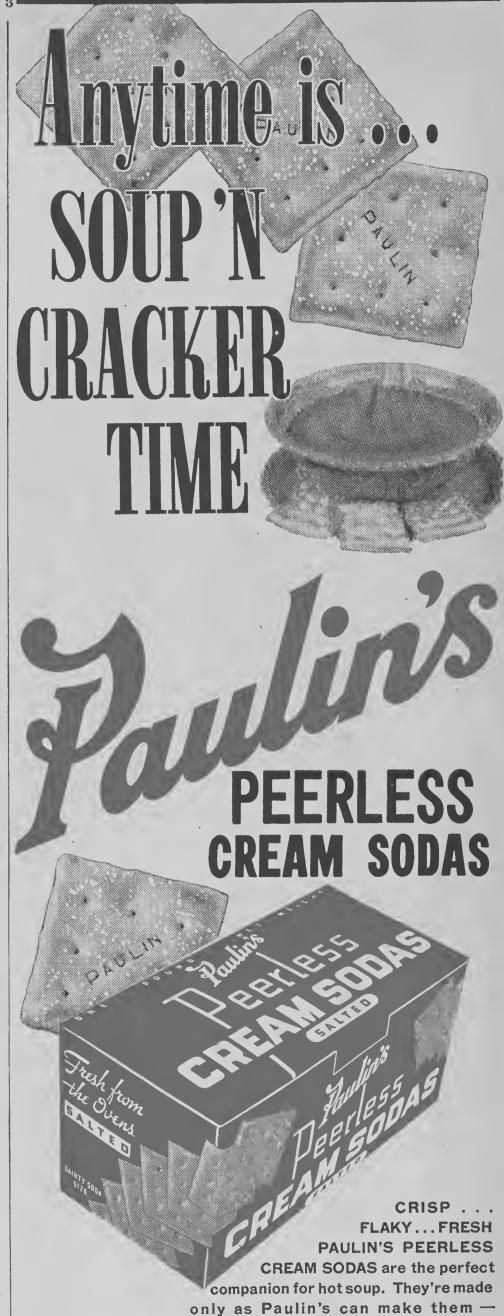
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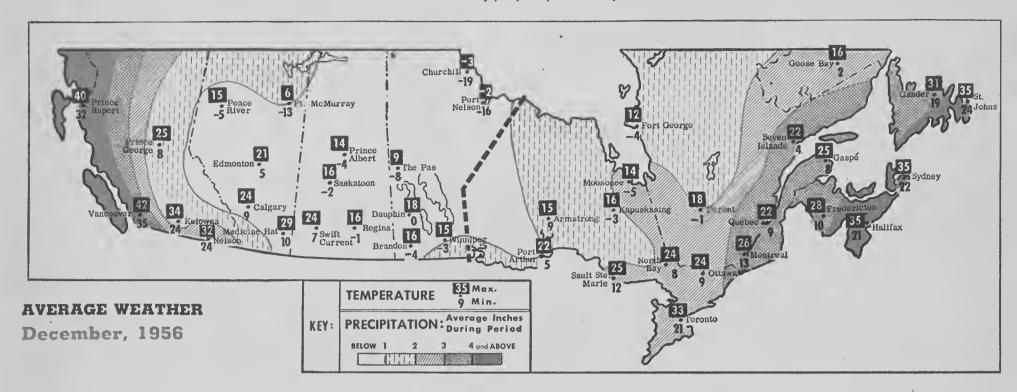


LOOK FOR PAULIN'S CREAM SODAS . . FRESH AS TOMORROW - PERFECT WITH SOUP!

Weather Forecast

Prepared by DR. IRVING P. KRICK and Associates

(Allow a day or two either way in using this forecast. It should be 75 per cent right for your area, but not necessarily for your farm.—ed.)

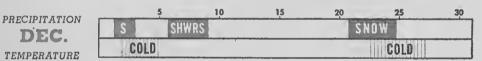


Alberta

Snow and cold, pervading the province about the 21st of November, will give way to mostly clear skies and seasonal temperatures during the last five or six days of the month. But the pattern of cold set in November will linger through the greater part of December. Polar air will press southward about the 2nd, persisting until whisked away by chinook winds toward the 7th or 8th. Another blast from the Arctic about the 23rd will

find Christmas spent close to the hearth. For the month as a whole, temperatures should fall short of average, especially in northern dis-

Snowfall will be erratic . . . deficiencies common in the north, with seasonal or more generous amounts prevalent in the south. Snow can be expected toward the 2nd or 3rd, a few showers around the 7th, and widespread snowfall toward the 25th.



Ontario

Rain, snow and cold, rounding out the last week of November, will be only token examples of weather to be experienced in December. Indeed, December will be unseasonably cold . . . probably falling among the coldest 25 per cent of record. Once Polar air pervades the region toward the 4th or 5th, there is little likelihood of appreciable warming through the balance of the month. Cold air will be reinforced by an outbreak from the

north about the 9th or 10th, and another during the waning days of December. Brief warming can be expected toward the 20th.

Precipitation . . . erratic, ranging from mostly seasonal amounts in northern Ontario, with deficiencies more widespread in the south. There will be no shortage of snow, however, as accumulation, even in southern districts, will exceed the ordinary for December. Livestock should make generous inroads into feed reserves. V

	5	10	15	20	25	30
PRECIPITATION	SNOW	SNOW		S	WON	
TEMPERATURE	COLD	COLO			COLD	

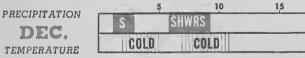
Saskatchewan

DEC.

November will run out the calendar with an abundance of fine days, after a Polar air mass and snow pervade the province about the 21st. Temperatures will again lean on the cold side of normal through the greater part of December. Beginning with a cold spell about the 2nd, reinforced by another cold outbreak about the 7th and still another about the 23rd, there will be little time for any warming of consequence. At least one bright note

-the month should not be quite so cold as the chilly December of 1955.

However, there will be much in common with last December, as snow accumulates to depths not ordinarily experienced so early in the season. Snowfall should be of lesser consequence in northern reaches of the province. Principal storms are expected about the 2nd and 22nd, with a few snow showers between the 6th and 9th of December throughout Saskatchewan.



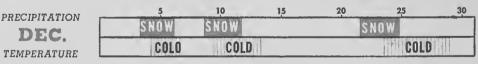
	5 1	0	15	20	25	30
S	SHWRS			SI	NOW MON	
COLD	COLU	W			COLD	

Quebec

November will terminate with cold weather and snow prevalent during the last week. December will be unusually cold in the Ottawa River and Abitibi regions, with cold weather less pronounced eastward into the lower St. Lawrence and Lake St. John basins. A sharp Polar outbreak will pervade the province toward the 5th, reinforced by another wintry onslaught 'about the 10th. Gradual warming will ensue, climaxed in a

scattering of relatively mild days toward the 20th. Much colder weather will spread after Christmas.

Precipitation, almost exclusively snow, is expected to fall short of normal, with greatest deficiencies in eastern districts. Principal storms are likely about the 4th or 5th, toward the 10th, and again between the 22nd and 25th. Snow cover should last through the greater part of the month, although thinning out in southern areas around the 20th.



Manitoba

Brief respite from snow and cold can be expected during the closing days of November, after some rough weather between the 20th and 25th. But, indeed, the season will have much in common with late fall and early winter of last year, as snow and cold again come, in more generous quantities than is customary. A Polar outbreak about December 2, with repeated onslaughts about the 9th and 24th, will leave little room for any

appreciable warming. Wintry weather Maritime Provinces will be evidenced even more in Manitoba than in the other Prairie provinces.

Snowfall will be both frequent and generous . . , accumulation considerable. Heavy feeding of stock should be requisite . . . transportation often impeded. Storms are expected about the 2nd, 8th, toward mid-month, and again around the 22nd or 23rd. Total snowfall in most locations should exceed normal.

Cold, wet weather will be characteristic during the last week of November, giving way to relatively mild, dry weather in the initial days of December. This pronounced pattern of alternating cold and mild spells will, more or less, express December weather. Temperatures, as a whole, will closely approximate normal. Lowest temperatures are expected to accompany Polar outbreaks about the 10th and 27th, although

chilly weather will be the rule from about the 5th, through mid-month. Considerable warming will be encountered toward the 20th in the Maritimes.

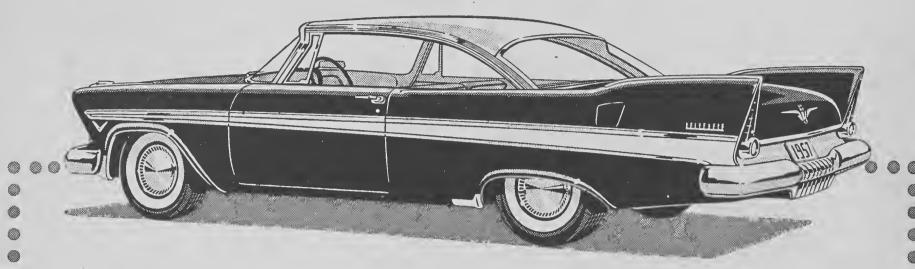
Snow will be conspicuously deficient both as to frequency and amount. Even when coupled with rainfall, precipitation amounts will fall well short of normal. Sunshine should be unusually abundant-by and large, it will be a pleasant December in this

PRECIPITATION DEC. TEMPERATURE

5	10	15	20	25	30
S	SNOW	SNOW		SNOW	
COLD	COLD			COLD	

PRECIPITATION	5	10	15	20	25	30
DEC	SHOW	SNOW			SNOW	
TEMPERATURE		COLD		WARM	lil C	OLD

Presenting the All-New 1957 THRILI-POWER Plymouth!



New Ultra-Smooth Torsion-Aire Ride! New Thrill-Power Go! New Safer Stop-Power!

Come, take the wheel of the most completely new car in twenty years . . . the beautiful *Thrill-Power* Plymouth for '57.

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PLYMOUTH'57

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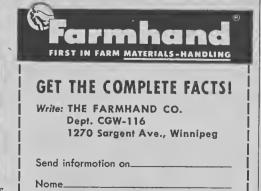
HERE'S THE RIGHT COMBINATION of low cost and dependable, labor-saving features. It's Farmhand's new F-11 high-lift loader. Lift capacity is 3500-lbs., raises loads to 17 ft. With Grapple Fork attachment it's the perfect machine for winter feeding from stacks. Scoop and Dozer attachments make it ideal for snow removal too.

that can match the famous Farmhand Hi-Lift for time and money-saving versatility. It pays its way on sweeping and stacking alone. But now, when feeding is a cold, hard job, the Farmhand Hi-Lift is an especially wise investment. With sturdy Grapple, Fork attachment, the Farmhand tears out big half-ton loads, even from frozen stacks. And, with practically no work on your part, you can carry and unload the hay right where you want it. Think of the long, cold hours you'll save.

of the long, cold hours you'll save.
Snow-blocked roads are less worry when you have the Farmhand with huge Scoop attachment. You'll be able to doze, scoop and pile tons of snow without getting off your tractor. In all, there are 11 rugged attachments to help make the Farmhand Hi-Lift the hardest working machine on your farm. See it at your dealer's.



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FARM NOTES



The new head office and cold store of United Co-operatives of Ontario was opened at Weston recently. Worth \$600,000, it is owned by 60,000 farmers.

New Malting Variety Available

Parkland, the new malting barley developed at the Brandon Experimental Farm, Man., has now been released by the Canada Department of Agriculture. It is a six-row, smooth-awn, nodding variety of the Manchurian type bred by W. H. Johnston from crosses involving Newal, Peatland, OAC 21, Olli and Montcalm. Parkland takes about the same time to mature as Montcalm does, but has stronger straw, is highly resistant to the prevalent races of stem rust, and moderately susceptible to the smuts.

Tests have shown that it can out-yield Montcalm and OAC 21 in all soil climate zones, and is the equal of OAC 21 in malting quality. It is being distributed to farmers in western Canada, except in the Peace River block, where there is not an urgent need for a new malting variety. There is a limited supply of seed for eastern Canada, and it will be distributed there if the 1956 tests show that it is adaptable to the east. Seed stocks of Parkland are available only from the Canada Department of Agriculture. V

Farm Loans Higher This Year

CHANGES in the Canadian Farm Loan Act, increasing the maximum loan limit from \$12,000 to \$15,000, and the maximum term from 25 to 30 years, have resulted in a big increase in demand for loans in the past six months. Approvals for loans are 45 per cent greater than in the corresponding period last year, and it is believed that this is partly due to the larger loans.

The latest annual report of the Canadian Farm Loan Board up to March 31 last, which does not include any loans since the act was amended, shows that in the 12 months from April 1, 1955, there were 2,057 loans for a total of \$8,309,650, making an average loan of \$4,040. At March 31 this vear, there were 18,931 first mortgage loans and 2,389 second mortgages outstanding for a total of \$44,958,136, or nearly \$5 million more than the previous year. Collections were satisfactory, with 87 per cent of the total due for interest being paid by the end of the year; \$3,623,518 of the principal was repaid, and more than 54 per cent was for principal not yet due under the mortgage contract.

Canadians For World Contest

THE World Plowing Championship for 1956 has just been completed, but already two Canadians have qualified to represent this country in next year's contest at Peebles, Ohio. They are Hugh Baird of Blackwater, Ont., and Stanley Willis of Cornwall, P.E.I., who were placed first and third, respectively, in the International Plowing Match at Brooklin, Ont., last month.

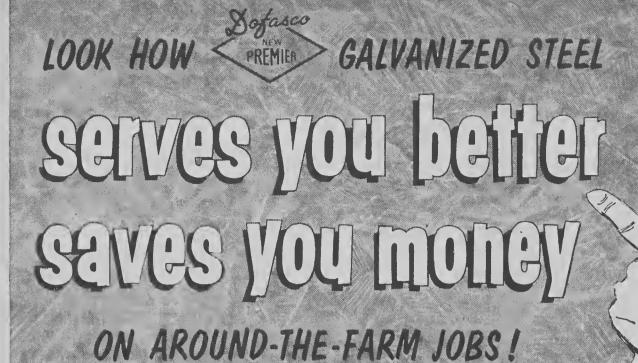
Normally, the plowman in second place would qualify for the world championship, but Douglas Reid, who came second this year, is from Brampton, Ont., and no province can send more than one man to the world competition.

A crowd of about 100,000 went to see plowmen from right across Canada competing at Brooklin, where the land was in perfect condition for the match. Two Manitoba men, Arthur Tomlin of Portage la Prairie, and Cyril Heynes of Emerson, were fourth and fifth in the silver plow contest.



[Len Hillyard photo

Taking part in the annual conference of deans and principals of Canadian agricultural colleges, held at Saskatoon, were (l. to r.), J. D. MacLachlan, O.A.C., Guelph; V. E. Graham, University of Saskatchewan; Lorne Hurd, executive secretary, Agricultural Institute of Canada; K. Cox, Nova Scotia Agricultural College; H. G. Dion, Macdouald College; A. G. McCalla, U. of Alta.; B. A. Eagles, U. of B.C. J. R. Weir, U. of Man., was absent on account of ill health.

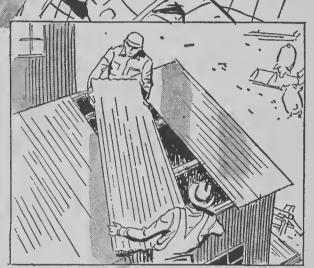




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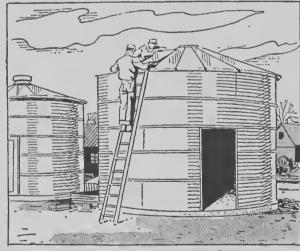
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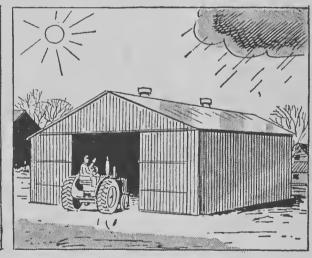
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time will be wasted on fixing things up. He is getting scheduled IH inspection and service on all his important equipment now—in the shop today instead of in the field tomorrow.

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SERVICE - PARTS

Some Observations on

Roughages as Livestock Feed

Cellulose provides the largest amount of nutrient in roughage, and is the key to its feeding value

by E. W. CRAMPTON

Toughage is so commonplace that any special attention to it by way of description may, understandably, appear unnecessary. But when we begin to formulate an acceptable definition of roughage, especially if that description is to have nutritional significance, we soon find ourselves in difficulties. Indeed, nutritionists are realizing more and more that we know less about roughage than about most other types of feeds.

The reason is that whereas we try to describe feeds in terms of their useful nutrient content—useful, that is, to the animal that is to consume the Many conditions and factors influence the extent to which, and the rate at which cellulose will yield these usable acids. Some of these conditions relate to the food needs of the microflora rather than to those of the cow. Thus, a nutritionally adequate definition of roughage—one that depicts feeding value or permits comparisons of feeding values — may require consideration of its botanical, physical and chemical characteristics as much in the relation to the needs of bacteria as to those of the host animal.

Space does not permit any adequate discussion of the many factors which

roughage samples is likely to be relative yield of energy to the animal. Most roughages contain enough nutrients (vitamins, amino acids, and minerals) to match the amount of usable energy (calories) which that particular forage will actually provide to the animal, though sometimes extra phosphorus is needed. However, when forage is supplemented with grain, the combination may be short of vitamins, minerals and/or protein. But that is a different problem. The final feeding value of forage in practice is, in the long run, directly related to its useful energy yield.

THE factor chiefly responsible for limiting the proportion of the cellulose which will be "converted" by the rumen bacteria to some usable source of energy, as acetic acid, is the extent to which the forage has become lignified. Lignin acts as a protective covering for the cellulose skeleton of the plant. It is progressively laid down with advancing maturity of the plant. Wood owes its "permanence" to lignification of its cellulose framework, since bacteria do not readily attack lignified fiber. Here we see the reason that feeding value of forage decreases with its advancing maturity.

In addition, the major factor in slowing the rate at which the consumed forage is "digested" is also lignification. This is a reflection of the greater difficulty of attack by the rumen bacteria on lignified cellulose. Perhaps lignification of the cellulose effectively reduces the energy supply to the bacteria, as a consequence of which they are less active or the total flora may be reduced by partial starvation. Forage that is slowly "digested" will be eaten in proportionately lesser amounts in a given time, since recurring hunger reflects

the digestion and removal of previously eaten food.

Special type of pen and feeding equipment used for the study of sheep on forage rations at Macdonald College.

We might summarize all this something as follows:

- 1. Forage is primarily useful to an animal in direct proportion to its yield of useful energy. That is, useful energy yield is the most usual factor limiting the nutritive value of forage, and forage which is eaten in large enough amounts daily to meet energy needs of an herbivorous animal is a complete diet. Most of the energy an animal gets from forage comes from acetic acid formed by bacterial breakdown of cellulose (crude fiber).
- 2. Lignification of its cellulose is the major factor limiting the yield of useful energy of forage, and hence determines the minimum daily forage intake necessary to meet the specific caloric requirement of an animal. Degree of lignification is a function of plant maturity, but is also a characteristic of kind of plant.
- 3. Lignification of forage, by hampering the bacterial attack on the cellulose, also depresses the rate of its digestion, and the rate at which ingested feed moves out of the rumen and along the digestive tract. Deficiency of nutrients needed by the micro-organisms, such as phosphorus, is sometimes also a cause of slow digestion of fibrous feeds (i.e. forage). Frequency of recurring hunger, and hence the daily forage intake is much influenced by rate of digestion.

FROM these facts we realize that the quantity of forage voluntarily eaten is an index of its over-all relative feeding value. What is not so (Please turn to page 35)



Cutting and baling forage at the right time is important for efficient animal husbandry, but there is much more to be learned still about forage.

feed,—roughage appears not to fall into any such scheme. The "nutrient" present in largest amount is cellulose. Wood pulp and cotton are essentially cellulose. Farm animals, unaided, cannot make any use of cellulose, but it is nevertheless the key to the feeding value of roughage.

The story goes something like this: Under breakdown by micro-organisms in the rumen, cellulose yields a mixture of acids. This is analogous to what happens to sugar in the production of vinegar, excepting that the kind of micro-organism is different. The cellulose in the case of roughage, or the sugar in the case of the vinegar, is used by the bacteria as their source of energy, and in the course of the processes acetic acid is produced. The acetic acid (as well as butyric and propionic) can be used by animals as a source of energy. This is absorbed directly from the rumen.

enter into the picture, but a brief summary of one or two of the major ones affecting the use of roughage by farm animals may be helpful.

At the outset it is probably worth stating that the practical difference between the feeding value of different

Relation between kind of forage and its digestibility, its phosphorus content, and its voluntary consumption Daily Calorie intake by Weight change in sheep Average daily voiuntary dry matter intake Digestibility of Calories lignite content sheep ration per day gms % Cals % gms Birdsfoot Trefoil 1228 3015 .22 2.7 61 gain Red Clover 1073 62 2570 .28 2.6 gain Brome Brass 655 59 1365 .28 1.9 none 477 56 960 .20 .9 Timothy loss 301 50 800 .10 .3 loss Timothy + extra phosphorus 800 58 2088 .45 3.6 none

IBDDDDBS?

00-0P.

ROM a small seed planted in the minds of a few Winnipeg-area truck farmers, has grown an enterprise that performs an ever-expanding service to local market gardeners, and wholesalers from coast to coast. Now known as the Gardeners' Sales Ltd., it represents the amalgamation of two vegetable co-operatives.

The man generally given credit for founding the original Winnipeg Gardeners' Co-operative is the late Peter Damon. Early in 1945 he was instrumental in calling meetings to discuss ways and means of improving the marketing of Manitoba vegetables. From this and following meetings 36 men set up the organization, which was to approve building plans in the spring of 1945. Doors were opened for business in November of that year.

Some of these men had worked together on previous occasions to pool their knowledge and experience in growing and selling their produce. Two Though organized as a joint stock company, the Gardeners' Sales Ltd., of Winnipeg, pools prices and pays patronage dividends

by A. J. THORKELSON

panies was to peddle his vegetables from door to door. They also believed that the quality and service to the wholesaler could be improved. Vegetables had been delivered as they came from the fields, and little attempt was made at establishing grades. Finally, a whole new field of promotion could be opened.



The co-operative now has five cooler rooms for vegetable storage. Here some boxes of Manitoba tomatoes are being packed and taken out to the loading dock for direct shipment to customers over a wide area.

of the forerunners of the Gardeners' Co-op were the Manitoba Truck Farmers' Co-operative, and the Manitoba Associated Growers. The former came into being during World War II. It worked largely with the Wartime Prices and Trade Board, to help with specific problems regarding production rationing, and the procuring of gardeners' supplies. They also pooled equipment for hauling, to save gas, oil and tire costs. The latter group was a marketing pool formed by the late Peter Damon, with Klaas Anema, James Connery, J. Damon and Sons, and K. Damon. It was this body that registered the trade mark "Peak of the Market," later adopted by the Winnipeg Gardeners' Co-operative.

The men who attended these organizational meetings were a very cautious group. They had watched the rise and fall of many marketing cooperatives. It seemed to them that the downfall of such unsuccessful ventures was the laxity of the members. There was always great temptation for members to sell on the open market for a few cents higher price when it suited them, and then run to the pool when things got tough and prices began to fall. Therefore, it was decided at the outset that the standards for membership and shares should be high. This would ensure a membership whose prime interest would be to back their own business.

Members of the Winnipeg Gardeners' Co-operative had a threefold purpose. They felt that the producer could do better in the sale of his goods. Up to 1946, about the only alternative a Winnipeg producer had to selling to the big private com-

PAPITAL of over \$38,000 was raised in the initial drive, and was then built up to \$50,000 for the commencement of operations. A building site was purchased adjacent to "Fruit Row," the hub of Winnipeg's wholesale fruit and vegetable center. The original building, opened in November, 1946, was 50 by 100 feet. An old oil-drum stove served for heat, and a make-shift barrel washer did what cleaning was necessary at the outset. Office equipment included two desks left over from a preceding organization, and orange crates for filing cabinets. Since then they have enlarged to 75 by

100 feet, and have all the facilities of modern upto-date offices and plants.

This year there has been another move to strengthen the organization. Since its formation, the Winnipeg Gardeners' Co-operative had competed with the Manitoba Vegetable and Potato Growers' Co-operative, formed in 1929; and it was decided to work out a plan for amalgamation. This was approved by both parties, and the result is the Gardeners' Sales Ltd., a joint stock company, but still working on a pooled price basis, and paying a patronage dividend of at least 50 per cent of revenue in excess of costs.

The shares are in units of \$100 and \$1,000 only, and these can be held only by growers, who cannot transfer them to anyone but growers. Membership has increased to about 80 producers, who must sign contracts for marketing all their produce through the company. The name was changed to the Gardeners' Sales Ltd. because, in addition to marketing their produce, the company also sells agricultural chemicals, machinery and other equipment required by growers. Its aim is to do, on a voluntary contract basis, what might have been achieved by a marketing board.

The co-operative has never attempted long-term storage of produce. It buys farmers' goods by the truckload, as they are required. These are washed, where necessary, graded, pre-packaged and shipped to the wholesaler.

Vegetables are usually stored on the farms in root cellars until the Co-op. calls for them to fill an order. There is approximately 30,000 square feet of "on hand" storage space including five refrigeration rooms for the storage of perishables. About 15 carloads of fresh lettuce, celery and similar products can be safely kept away from summer heat in this cooler.

THE first processing of the vegetables on reach-I ing the plant is usually washing. There are now special modern machines for automatically washing each type. One large drum washes carrots and parsnips, another handles turnips, and a sprayer cleans head lettuce, and the leafy vegetables. But the "potato laundry" is the king of them all. It is about 85 feet long, and occupies one end and part of one side of the basement. To the knowledge of Bill Damon, Co-op. manager, it is the only one of its kind in Canada. Potatoes from the farms are dumped into a trough at one end, where they are allowed a short soak to loosen the heavy Red River Valley mud. Then they are conveyed through tumblers, brushes and jet sprays to the dryers, which give them a heat and air blast treatment. This is the feature that distinguishes this "laundry" from most others in existence, where the potatoes are delivered from the machine still soaking wet. Conveyors and rollers take the potatoes up over the sizing and grading table, where watchful eyes pick out culls, and then to the bagger. They are weighed automatically into 75-pound bags, or with an



Busy scene at harvest time in the onion field. Gardeners' Sales encourages farmers to store their vegetables, and regulates the flow to the market by calling for deliveries as required, avoiding overcrowded warehouses.

adapter, into ten-pound paper sacks. All this takes place at the rate of 250 per hour for the 75-pound bags, and 500 per hour for the ten-pound bags.

Carrots, due to their shape, are packaged by hand. Anything that rolls, however, is graded, weighed and packaged in the Co-op. "Peak of the Market" bags, automatically. The bagger is an endless belt on a sloping table. Along the lower edge is a series of gates, leading into chutes. When the predetermined weight enters the chute the gates close. The operator has a bag waiting over the other end of the chute, and when he pushes a lever, a second door opens and in go the onions, or what have you. A final weight check is made and the bags are sealed.

The maintenance man, Joe (Mr. Fixit) Marchant, has added many of his own inventions to the machines, and created a few gadgets to speed up operations. One is a bag holder that really holds, but can be released with a flick of the wrist. Others are for the rapid packaging of awkward shaped items. A potato weighing and bagging machine he patented was used until the complete "laundry" was installed, and other firms with less volume continue to use this type successfully.

WHILE talking to manager Bill Damon one Friday afternoon, we saw the last of a large order of washed carrots being popped into their polyethylene bags. These were being taken from the basement on a conveyor belt to the loading dock, and then onto one of the Co-op.'s big semitrailers. They would be delivered to a wholesale firm in Fort William on Saturday morning. These trucks make from six to nine trips a week, and service points from Fort William and Port Arthur in the east, to the Saskatchewan boundary in the west. Wholesale firms in this area are pretty well assured of 24-hour delivery of their orders.

There are other important advantages for whole-salers in direct trailer delivery. They can order smaller lots, and not have vegetables on hand for such a long time. Speedier delivery means less spoilage, and a better quality of produce to sell. In winter the trailers are heated with propane gas stoves, and in summer crushed ice is blown in on top of perishable produce.

Points farther afield are serviced with "Peak of the Market" produce by rail. Orders have gone as far as Newfoundland, Halifax, Chicago, St. Louis, Vancouver, Dawson Creek and Flin Flon.

The services of the Gardeners' Sales Ltd. to its members are as varied as the needs. They supply irrigation equipment, fertilizers and insecticides. Registered seed is sold, and recommendations are made as to variety selections to suit soil and moisture conditions. Growers are informed of consumer preferences, and hear of the latest developments from representatives sent to conventions and horticultural meets. One of the greatest benefits to the grower is that he spends less time marketing his produce and is able to devote more of his attention to business at home.

The Co-op. has pioneered in pre-packaging gardeners' produce. Their bright-colored bags are familiar sights on retailers' shelves in many parts of the land. This and aggressive promotion campaigns, including lavish displays at summer exhibitions, is placing Manitoba-grown "Peak of the Market" vegetables in a prominent position in a highly competitive field.

A much higher grade of vegetables is being presented to consumers today by all suppliers than in the recent past, and the Co-op. feels that it deserves a fair share of credit for this trend. It has always been extremely careful not to supply poor quality goods, and the producers themselves are more careful of the grade they ship. They have learned that less dockage for culls means higher prices.

Through high standards all along the line, the Gardeners' Sales Ltd. remains one of the few such ventures surviving the test of time. Their assets have climbed above \$300,000, and it has been estimated that total business for 1955 passed the \$1,000,000 mark. Indications are that this year will be even better. In August alone they did \$145,000 of business, setting up a new monthly record.



It is a highly competitive market, and stores now demand an attractive product for self-serve trade. Carrots are washed thoroughly in a wooden drum at the Winnipeg plant and packed by hand. Shopper sees quality.



Potatoes, too, must be thoroughly cleaned, and here they are elevated into the soaking tank for a start.



They pass through the automatic potato laundry to a battery of chutes filling the bags exactly.



Celery is washed and trimmed, and after banding is quickly packed into attractive transparent wrappers.



Cauliflowers are kept fresh and palatable in transit by packing them in some layers of crushed ice. By maintaining quality, the Co-op. has become an important competitor in the vegetable trade of western Canada.



Loading a boxcar from a warehouse acquired by Gardeners' Sales through the amalgamation with Manitoba Vegetable Co-operative.



Produce cleaned and ready to stand the careful scrutiny of the housewives.



If you follow a half-forgotten trail that leads away from the old farmhouse in which my brothers and I were reared, it will take you across the prairie to the foot of a hill reaching far into the Saskatchewan sky. From its crest you'll see a panorama of sloughs and prairie and coulees falling away until they lose themselves in the northern distance. Near your feet you'll discover a small white cross. And if you look closely you will find, carved on it, "Aya-oo 1921-1932."

Aya-oo was a coyote, probably the only one in the Allan Hills that had earned a name for himself. My brother John and I had given it to him, and it was I who dug that shallow grave on the frozen hilltop and carved the lettering on that lonely cross.

Most coyotes are pests and chicken stealers, to be shot or snared or trapped or poisoned, born unwanted and dying unknown. By all the laws of nature, this should have been the undistinguished fate of Aya-oo. But it wasn't. His strength and cunning and his contempt for the devices that tricked other coyotes brought him to our special attention. Before he died he was a legend throughout the prairie country that he roamed. And he was so inextricably bound into my happy boyhood that even now I cannot recall those distant days without thinking of Aya-oo.

John and I knew him best. We had always hunted, and a big coyote couldn't grow up on our range without our knowing it. I was the first to become acquainted with him, because I was seven years younger than John. While he worked with the cattle I went to school and was free to hunt between times.

I FIRST met Aya-oo when I was twelve years old. He must have been only a pup. While I was out setting traps a couple of miles south of the farm buildings I shot a bush rabbit for bait. I ripped it open with my hunting knife and hung it from an overhanging branch, then concealed a strong springed No. 1½ trap below it. The snow was marked with fresh mink tracks, and as I watched the bait blood drip I was already figuring on the returns from a prime mink pelt.

I caught no mink. Two days later I skied out to the south traps and, with my .22 slung over my shoulder, whizzed down the coulee slope and banked to a stop above the setting in twin cres-

AYA-00

by RALPH HEDLIN

He was a big, resourceful coyote. Our feud lasted through my boyhood years and it was he, at the last, who pushed me over the threshold to manhood

cents of flying snow. A sudden flurry in the bushes warned me something was in the trap, but before I could get free from the ski harness there was a crash in the brush and a tawny coyote flashed into view, streaking for freedom. It could have ended then, but I missed him. In open, short-range shooting, I made two clear misses and only cut flesh on the third shot. The coyote yelped, but never broke his pace. I followed him, but there was no blood on the trail. The trap in the bush, however, was clutching two of his toes.

SPRING came with a rush that year. As snow-drifts vanished and creeks overflowed the concert of the coyotes began. In the evenings John and I would sit on a knoll in front of the house and howl and the coyotes would answer. Throwing back our heads, we'd tease the evening air with the sad and shimmering ruh-ruh-ruh-ay-aa-oo-oo of the prairie coyote. Soon the dusk would be tingling with a wild symphony of coyote howls.

It wasn't long before we picked out one coyote voice from the howl-ringed horizon. All the dogs sounded the ruh-ruh-ruh in a deep note. But one, untypically, struck a still deeper note on the ay-aa part of his song. We named him Aya-oo.

It was well into the following winter before I knew that Aya-oo and I had met before. Late one

Illustrated by Clarence Tillenius

afternoon I slipped my .22 under my arm and went out hunting rabbits over the north pasture. As I walked through a coulee below the barn, for no particular reason I howled like a coyote. The deep bass note of Aya-oo sounded almost at my feet.

I ran toward the sound, my moccasins silent on the soft snow, crossing two ridges and then melting into the cover of a buffalo willow bush. Perhaps a trap on my belt rattled, or an eddy of fragrant air carried my scent. Anyway, a big coyote came hurtling out of the bush fifty yards away, going flat out. I bounced bullets around him, but never touched him. When I checked the track, I saw that two toes were missing from the right front paw. Aya-oo was the coyote that I'd had marked in the south coulee mink set.

NOW I became really keen to get him. He was marked; he had a deep bass voice and a maimed foot and was enormous. To this day I remember standing over the track and promising myself that, though I'd go on taking the smaller coyotes, I'd not stop until, with trap or gun, I had claimed as a trophy this biggest coyote ever to hunt in our part of the country.

I'd have competition, I knew. John perked up his ears when he heard what I'd found out, and John was no mean antagonist on the trail. He was twenty now, and had grown up on the trapline. He was generally admitted to be the best shot in the Allan Hills, and on top of all that he had a .30-30. Dad permitted (*Please turn to page* 38)





It was fall round-up time on Manitoulin Island, where 3,089 cattle were sold at Little Current.



Herb Mervyn, Manitoulin Island, and others kept trucker Harold Noble (r.) busy for several days.



This drive of 60 cattle from Mindemoya, sent by seven cattlemen, trekked 25 miles to Little Current.

CATTLE ROUND-UP IN ONTARIO

This has become a million-dollar business already for the livestock men who pioneer on the rocky face of the Canadian Shield

by DON BARON

HE annual outpouring of cattle from Ontario's feeder cattle area in the north, like the storied western round-ups, or the vast prairie wheat harvest, is a saga of its own.

Each September, from lake-filled and rocky Manitoulin Island, with its tracts of bushland and pockets of fertile soil, come hundreds of feeder cattle for the nation's biggest one-day cattle auction. From the Algoma region, reaching along Lake Huron's north shore toward Sault Ste. Marie, and scene of the Blind River uranium rush, come more young stock ready to grow and fatten into beef. And now, Parry Sound and the area north to Nippissing district, beyond the famous Muskoka holiday land, where the scarlet and amber fall foliage seems like gay dress donned specially for sale time, pours out its cattle in one big selling binge.

Even Wiarton, including Grey and Bruce counties, could be included in this sales series. For here again, the feeder cattle from lush summer grazing, are assembled, sorted, weighed and sold to those who have feed for fattening.

This year these four big sales, each taking less than five hours actual selling time, grossed over a million dollars for the 9,780 cattle put up by farmers and ranchers.

These sales, set on the rocky face of the ore-rich Canadian Shield, seem to defy the unlikely area with their vigorous growth and development. Cheap land, low taxes and sturdy farmers still willing to pioneer, have turned the sometimes shallow, but often fertile soil into cattle country.

SOMETIMES it's a fight. Reg Sadler farms 65 acres at Magnetewan in Parry Sound district. But the parent material of his shallow soil was granite stone, rather than the limestone common to much of agricultural Ontario. It gave him a persistent acid problem.

An observant, thoughtful farmer, he has seen oats or barley germinate and stool out, only to watch many of the stalks wither and die. He saw 15-bushel yields that should have been 40 or 50. He seeded alfalfa that germinated, made a shaky start, and finally withered.

Now he is applying limestone, at three tons to the acre. It costs him \$3.76 at the farm, unspread. But it has banished the tell-tale moss from the acid soil, made alfalfa grow green, and the barley and oats stool out and thrive. He is getting crops of trefoil, brome, orchard and timothy now, and has built his stock to 15 cattle, a dozen ewes and 500 hens.

(Please turn to page 35)



The Parry Sound sale at South River, where 2,966 were sold, had some good Shorthorns in the ring.



Max Tullock and sou Glen have a 45-cow herd on 300 acres in the Iron Bridge country of Algonia.



Stewart Brown, Shedden (l.) pointed out this load at Thessalon to Ted Bateman and Bud Brown.



Frank Wolff, C.P.R. Agricultural Agent, watched cattle loaded up at Thessalon minutes after sales.



Two lots awaiting their turn in South River ring while another went under the auctioneer's hammer.



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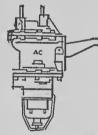
MDNTREAL TORDNTD WINNIPEG CALGARY EDMONTON VANCOUVER VICTORIA LETHBRIDGE MEDICINE HAT REGINA MODSE JAW SWIFT CURRENT SASKATDON BRANDON PORTAGE LA PRAIRIE KENDRA KINGSTON GALT CHATHAM KITCHENER SIMCDE / ST. THOMAS LEAMINGTON WINDSOR

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Under the Peace Tower

by HUGH BOYD

Two important inquiries recently came to an end here in Ottawa, but both have been somewhat obscured by the rising interest in the forthcoming battle for the leadership of the National Progressive Conservative party. Yet it seems fair to say that what the Tariff Board proposes about steel, or the Fowler Commission about future radio and television broadcasting policy, may have more significance for the Canadian people as a whole than the outcome of that political contest.

The Tariff Board hearings, as usual, have been carefully ignored by the public. Tariffs are so dull, and who cares about ad valorem duties, anyway? Let the experts figure it out.

Fortunately for the public, some of their representatives are less bored by it all. The steel case was certainly not allowed to go by default by such groups as the Canadian Federation of Agriculture and the Canadian Association of Consumers. These and various other spokesmen of the users of steel (meaning every business and individual in the country) were strongly disposed to challenge the steel industry's claim to additional protection.

One would suppose the industry to be hardly in a languishing state after learning that during the past decade it has invested \$400 million in expansion. But the producers argue that they are still not geared to play their full role in the general industrial development of this country, and that they are prevented from doing so by low tariffs on some steel items which they find it uneconomic to make.

ON the final day of the hearings, the CFA suggested that anything calculated to push up farmers' costs ought to be pretty carefully scrutinized. It wasn't going to be dogmatic about the desirable tariff level of this or that item, but the CFA did suspect that the steel industry could get along quite well were tariffs reduced in some cases instead of increased. What the steel producers are asking, on the other hand, is a virtual doubling of present rates.

This was a good example of the conflict of economic interests, which is universal and unending. By a coincidence, at the very time the Tariff Board was listening to closing arguments in the steel case, a group with a rather different outlook from the steel producers, was holding its annual meeting not many miles away down the Ottawa River. This was the Canadian Exporters Association, and it was seeking with single-minded purpose to find ways of breaking down obstacles to external trade. The Association was particularly concerned with the freer entry of Canadian goods to the United

It came up with several ideas, one being a proposal to make future Canadian-U.S. hydro-electric power agreements conditional on better trading arrangements for this country. This may or may not be a practical proposal, but the underlying motive must appeal



to anyone who believes the best way to reduce Canada's trade deficit with the U.S. is to sell more goods to that country rather than—as no doubt the steel people would prefer—cut down imports from south of the border.

If the Fowler Commission has attracted more attention than the Tariff Board's inquiry into steel, it is because the average citizen regards himself as more of an authority on radio and television than he does on tariffs. Yet the closing Ottawa hearings failed to show an extraordinary amount of interest. Perhaps this was because the Commission had been in the public eye so long.

Around Ottawa, at any rate, there seemed an almost casual acceptance of the proposition that television costs were going to run into astronomical figures within a very few years, as networks expand, second stations come to favored centers, hours of broadcasting are lengthened, and color TV begins to supplement the black-and-white variety. And there also seemed to be a widespread acceptance of the notion that the bulk of this expense should be met out of general taxation. Both the Federation of Agriculture and the Canadian Labor Congress, for example, laid stress on a public TV service financed largely, if not entirely, in this manner. The CLC tossed out a figure of \$300 million a year-from the taxpayer at large, that is-without flinch-

Well, maybe that is the sort of policy that will prevail, but it is difficult to think of people in the more remote parts of the prairie provinces, without access to television, or people in the Northwest Territories who don't even enjoy an adequate radio service, feeling overjoyed over such a prospect. And there may always be some families who will remain without TV sets, for one reason or another, after their area is covered.

There was remarkably little interest shown here in an appearance before the Fowler Commission by several visitors from the United States, who expounded the merits of that still commercially untested system, subscription television. They wanted it tried out in Canada on an experimental basis. Whatever the practical difficulties may be, subscription TV does appear to possess the virtue of requiring the user to pay for what he receives.



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"This winter I had to quit work because of rheumatic pain." writes Mr. T. Glofcheskie, Wilno, Ont. "I became fearful of being laid up as on a previous occasion with rheumatic pain. My pain became increasingly severe and spread from hip to ankle. Out of bed, the leg felt cold as though in cold water, so I stayed in bed. A friend persuaded me to take T-R-C's and I'm glad I did. In a short while I was relieved of my pain and was soon on the job again."

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GET IT AT A GLANCE

Here and There In World Agriculture

The first cattle auction at the Ontario Stockyards, Toronto, was held last month, when nearly 800 head of feeder cattle were sold at an average of 17 cents. This auction started a weekly series. New feeder cattle facilities have been installed at a cost of \$145,000, with a pen capacity of 3,000 head. \lor

A Red Danish bull died in Denmark recently after seven and one-half years of breeding service. During this period it had 33,000 offspring. This bull of a famous dairy breed has set up a new Danish breeding record.

Canadian grass and elover seed exports were over 51 million pounds during the past year, compared with a five-year average of 48 million pounds. The importing countries were the United States, West Germany. United Kingdom, Netherlands, Belgium, France, Switzerland, Austria, Ireland, New Zealand, Australia, South Africa, Japan and Ecuador. V

James H. Clark has been appointed livestock commissioner for Manitoba. Mr. Clark, who is 32, is one of the youngest livestock commissioners the province has had. He succeeds the late J. H. Conner.

Poland, a country much in the news lately, is reported to have failed to reach its production target for agriculture under a six-year plan, and must still import over a million tons of grain annually. A five-year plan has been started to make up this defi-

The first Canadian random testing of poultry station was opened at Oliver, Alta., recently. Breeds will be compared there, enabling producers to determine whether they are making progress in producing better chicks. Commercial egg producers can also use the information to choose strains of birds, based on random selections of eggs or chickens submitted to the

Russia is testing 3,600 varieties of erops to determine which are most adaptable to a wide range of soil and climatic conditions. These include a new, drought-resistant spring wheat known as Skala, and sugar beets with a yield of 11 tons of sugar from one hectare (2.47 acres). \lor

Henry E. Wood has retired as director of publications, statistics and weeds for the Manitoba Department of Agriculture, but will stay for another year as an agricultural consultant to the department. He is succeeded as director by H. Alex Craig, formerly assistant.

Farmers in the Austrian mountains are delivering their milk to the towns by pipeline, because of poor roads. A farm at 3,000 feet above the town of Mitterling sent a normal delivery in 21 minutes through a mile-long plastic pipe. The pipeline was washed between milkings. Other farms are adopting the system in other parts. ∨

Here's what keeps the price of gasoline low



Why have wholesale gasoline prices increased only one-third as much as wholesale prices in general since 1935-1939?



Raw material and other costs have

gone 'way up. Why not gasoline?



Gasoline prices have stayed down because a lot of companies are in the oil business —producing, refining and selling, more and more efficiently.



The consumer can shop around

-looking for the best products at the best price.

Competition for the motorist's dollar

keeps the price of gasoline low.



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keep 'em growing right

with the right amount of the right antibiotic in good feeds every day

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Keep your pigs HEALTHY all through the growing period and continue to raise them at less cost per pound of gain! Give them good supplements containing the right amount of AUREOMYCIN.

During the growing period, your pigs can still be retarded by visible clinical diseases such as infectious enteritis and atrophic rhinitis. They can still be set back by invisible "sub-clinical" diseases. The power of AUREOMYCIN in suppressing a wide variety of harmful bacteria reduces your hog raising costs in three ways: (1) You save pigs. (2) You save feed. Pigs don't waste nutrient fighting disease - they use them to put on maximum gains. (3) You save time. Pigs get to market sooner.

The table below tells you the right amount of AUREOMYCIN your pigs should receive each day:

Weight of Pig	AUREOMYCIN Chlortetracycline your pigs should receive	AUREOMYCIN Chlortetracycline per ton of Complete Feed
Up to 35 lbs.	1.5 milligrams daily per pound of body weight	100 grams
35 lbs. to 75 lbs.	1.5 milligrams daily per pound of body weight (†Continue this level to m	50 grams† arket, if disease is observed in herd)
75 lbs. to market	0.5 milligram <i>daily</i> per pound of body weight	20 grams

Your feed manufacturer or feed mixer can supply you with feeds and supplements that meet these requirements. See him. *Reg. U.S. Trade Mark



Look for me! When I'm on a tag, you know it's in the bag-

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MANUFACTURED BY AMERICAN CYANAMID COMPANY ANIMAL FEED DEPARTMENT



Yearling Herefords were used at the Lethbridge Experimental Farm this summer to test carrying capacity of irrigated pasture and type of gains made.

Use for Cast-off Western Range Ewes

AST-OFF ewes from western ranges will do a good job in raising market lambs when they are moved to eastern Canada. Last spring, crossbred lambs from western ewes at the Central Experimental Farm, Ottawa, had an average lambing percentage of better than 160 on more than 150 ewes, while Down breeds were slightly less under the same conditions. The crossbred lambs from western ewes have also outweighed purebred Shropshire lambs at weaning by an average of four pounds, and have gone to market an average of ten days earlier than all other lambs raised. They graded well.

These cast-off western ewes, mainly of Rambouillet breeding, are about five years old when they are considered too old for range conditions in the west. But they respond well on the relatively easy conditions of the eastern farm, and give up three or four good crossbred lamb crops before they are culled. The ewes are heavy milkers and excellent mothers, and when mated to Down rams, most of their lambs can be marketed off pasture. Those on grain feeding finish easily. V

Saving Milk With Calf Starter

TIGH-PROTEIN calf starters can reduce the cost of raising dairy calves on whole milk or whole milk and skim milk, especially in fluid milk areas. Since 1952, nearly all calves at the Lethbridge Experimental Farm, Alberta, have been weaned from all milk at 28 days of age to a calf starter and good quality hay.

In one experiment, calves were fed whole milk to 28 days, and then skim milk to four months, while another group was weaned from whole milk at 28 days and fed high-protein calf starter to four months. Good alfalfa hay was available to both groups, and those on skim milk had a grain mixture available. The calves on skim milk were heavier at four months, but there was no difference between them and the calf starter group in weight or body measurements at one year of age. The calves were fed a daily amount of milk equal to ten per cent of body weight until they reached 150

pounds in weight, and thereafter the daily allowance was 15 pounds.

In another experiment, calves were fed whole milk to 28 days on the basis of ten per cent of body weight, and another group had eight pounds of whole milk daily, regardless of body weight. There was no difference between the groups up to one year old. A third experiment compared calves fed eight pounds daily to 28 days, and then weaned from milk, with calves fed a smaller daily allowance of milk, but continued on milk to seven weeks. Both groups had 200 pounds of milk per calf. There were no advantages, on the basis of weights and body measurements, in feeding milk past four weeks, when they received a high-protein starter.

These experiments show that dairy calves need not be fed more than 200 pounds of whole milk, and require no skim milk if they have good quality legume hay and a high-protein calf

Feeding Dairy **Cows in Winter**

MITATE, as nearly as possible, early summer conditions for successful and economical feeding of dairy cows in winter, says Dr. M. E. Seale, associate professor of animal husbandry at the University of Manitoba. By this he means that good quality legume or grass legume hays with silage produce a roughage ration comparable to a pasture crop, both in nutrient content and succulence.

Dairy cows normally consume from two to two and one-half pounds of hay a day per 100 pounds live weight. If hay is replaced partly by silage, three pounds of silage are approximately equal to one pound of hay. Silage can be fed as the sole source of roughage, but it is better to feed at least one pound of hay daily per 100 pounds live weight. Supply dairy cows with all the good quality roughage they will consume without waste, and then give them a suitable grain mixture, if they need it.

Satisfactory grain mixtures vary according to the quality of the roughage, which depends on the time of cutting, storage conditions and several other factors, says Dr. Seale, especially



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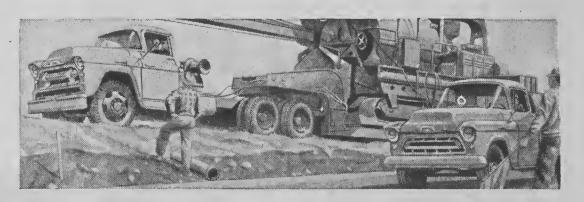
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LIVESTOCK

the legume content. Here are some examples of grain mixtures: -

	rough		Half le half g	gume, grass s.	All gr rough lb	age
Oats	450	500	500	400	475	400
Barley	300	200	200	300	175	275
Wheat			100		130	***
Bran	100	200	-	100		100
Linseed						
Meal	200			200		225
Soybear	1	7.00	200		220	
Meal		100	200		220	

There are also commercial dairy supplements containing about 32 per cent protein, which are mixed with farm grains, mainly oats and barley, and produce a good quality grain mixture. Dr. Seale recommends that the amount of dairy concentrate to mix with one-half ton of feed should vary from 200 to 350 pounds, depending on the quality of the roughage.

Watch Out For Hog Lice

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HOG lice can wipe out the profit in hog marketing. They reduce the hogs' rate of growth and gain, increase the feed bills and lengthen the finishing period, and lower the vitality. In severe cases, the sow may not breed until its condition is improved.

Dr. S. L. Curtis, livestock specialist with the Saskatchewan Department of Agriculture, recommends checking hogs for lice during the winter, when hogs are confined most of the time. The lice are about an eighth of an inch long, blue-black in color, and a fattish oval in shape. They are most commonly found with the head or proboscis buried into the hog, sucking its

He recommends any one of the many insect killers on the market, such as lindane or with oxychlor. A spray solution can be used if the hogs are in a warm house where they can dry off before going out into freezing temperatures. A second treatment is needed for a thorough clean-up, in case any nits have hatched after the first application. Hogs being finished for market should not be treated with lindane or D.D.T. within a month of marketing, and pigs of 12 weeks of age or younger should not be sprayed with lindane.

Ground Hay **Moves Too Fast**

RINDING hay to mix with the G cow ration is a mistake, according to C. B. Rodrigue and N. N. Allen of the University of Wisconsin. They say grinding lowers the value of hay, probably because it moves through the cows' digestive system too fast.

They have found that the fat test for milk drops sharply when cows are on rations containing all ground roughage, or when they get only small amounts of roughage. Grinding reduces the digestion of fibre by more than half the time that long hay does. The rumen is where cellulose digesting bacteria work to make raw materials for butterfat, so the shorter period would cut butterfat production.

Recommending chopped or long hay for cows, the Wisconsin scientists say that grinding may be all right for swine or poultry, but not for cattle. V

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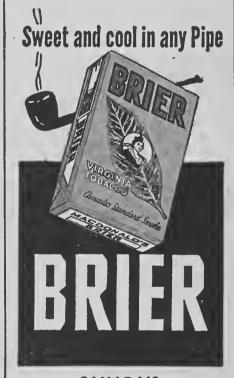
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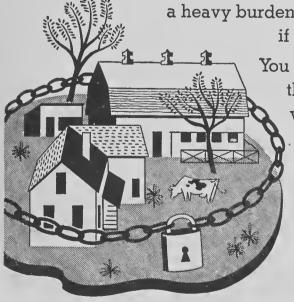
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FIELD



Peter Tornquist (left) showing a windbreak of spruce and Scotch pine to some visitors on his illustration station farm at White Fox, Saskatchewan.

New Hope For Wild Oat Control?

A NOTHER chemical may be added to the list of weed control recommendations before next spring. It is Randox, also known as CDAA, which was developed originally for controlling green foxtail in corn, but after two seasons of testing at the University of Manitoba, has been found effective in the control of wild oats in flax and barley. It is, however, unsuitable in wheat, which is less resistant to it.

George Friesen, of the Division of Plant Science at the University, says that Randox in liquid form is applied in the spring, and should be worked into the soil with a disk. There is also a granular form, but this is applied after seeding. The treatment costs about \$6 per acre at present, but only \$1 when used with corn crops. Increased production of the chemical might bring the price down to the same as 2,4-D, which costs roughly \$1 a pound, and applications run at two pounds or less per acre. It has not been licensed in Canada yet. V

Fertility Problem In Northern Ontario

THE increasing importance of northern Ontario as an agricultural area is attracting attention to the low fertility of the soil in those parts. This low fertility, says H. A. Hamilton of the Kapuskasing Experimental Farm, is due partly to low temperatures, which hinder bacterial growth. Summers are often short, with frosts sometimes as late as mid-July.

The soils in the north are mainly clay, with muck of varying depths. The clay tends to be compact, presenting a drainage problem, and while not much is known about muck soils, they are more susceptible to frost damage than clay is.

Work with fertilizers in that region has shown that they can reduce the frost hazard, but it should be realized that increased efficiency through the use of fertilizers will build up only gradually. A proper crop rotation is needed, with the addition of farmyard manure and commercial fertilizers. The manure has been especially effective, and as a result, there is room for dairy cattle production there.

There is much more to be learned about northern Ontario soils, but the use of fertilizer and manure is a good starting point. \lor

Good Grass For Flood Areas

A LBERTANS in areas subject to prolonged flooding, such as low-lying land in the center of the province, may find the answer to some of their problems in reed canary grass. It will grow and thrive in water for at least seven weeks, and tests at the Lacombe Experimental Farm and the Athabasca Substation have shown that it is the equal of crested wheat-grass, slightly superior to intermediate wheatgrass, and only a little inferior to brome in winter hardiness.

Preparations for new seedings can be made now, because it is very successful if sown in the fall after freezeup. If that is too soon to get started, it can be seeded instead after flood waters have subsided in the spring.

Reed canary grass is a perennial with a creeping root system, producing a dense sod if conditions are favorable. It can be used for hay or pasture, and although it is inferior in quality to some grasses, it is nutritious and palatable if cut before growth is too far advanced. It should be cut for hay during the first few years to allow the plants to form a good sod before pasturing. After that, graze sufficiently to prevent it from becoming too coarse for livestock. V

Getting the Best From Peat and Muck

A LTHOUGH peat and muck soils are useful to the dairy and vegetable industries on Vancouver Island, they raise some problems, according to H. Gardner of the Saanichton Experimental Farm. These soils are in low-lying areas which normally require draining, and because tile drains tend to work up to the surface, widely spaced open ditches have become common.

The porous peat soils often dry severely after cultivation, and shallow seeded crops, such as forage and some vegetables, tend to germinate poorly, and thorough packing is needed after seeding. Phosphate and potash are both needed for peat soils, and where the peat is raw or poorly decomposed,

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nitrogen must be applied too. This usually happens when the peat is first brought under cultivation, requiring 300 pounds per acre of 4-10-10 for forage and cereals, and 1,000 pounds for potatoes and root crops. These soils decompose fairly rapidly and nitrogen is released, so the fertilizer can be changed to 0-12-20 at 200 pounds per acre for cereals and forage, or 800 pounds for potatoes and root crops. Manure is also useful.

Forage Seed Project in Quebec

CLIMAX timothy and Lasalle red clover have almost entirely replaced other common varieties and mixtures in Joliette County, Quebec. This development, which follows a four-year campaign by the Canadian Forage Seeds Project and the Quebec Department of Agriculture, is significant in a province where 75 per cent of the cultivated land is in hay or pasture.

It is estimated that 30,000 pounds of certified Climax timothy seed and 20,000 pounds of certified Lasalle red clover seed have been produced in Joliette County this year. In addition, there should be a yield of about 158,000 pounds of registered and certified Climax seed from the Moose Creek area in eastern Ontario.

It is hard to produce pure varieties of timothy and red clover, owing to natural cross-pollination between adjacent fields, but plant breeders, seed inspectors and seed growers have done an outstanding job.

Disadvantage Of Merion Bluegrass

FROM North Dakota comes a report that may discourage the use of Merion bluegrass. This is a thick-tufted variety, which stands up well to hot, dry weather and is resistant to leaf spot, but it has proved to be susceptible to common stem rust.

W. E. Brentzel, plant pathologist at the North Dakota Agricultural College, says that Merion is infected by the same rust that attacks wheat and other cereals. The rust doesn't live through the winter, but the spores appear in the following season, just as they do in grain fields. This susceptibility to stem rust, in his opinion, outweighs the other advantages of Merion, and he is advising North Dakota farmers against it.

Cash Crops On Clay Soils

CORN, soybeans, winter wheat and other cash crops can be grown satisfactorily on heavy clay soils, but special attention must be paid to maintaining fertility and a satisfactory tilth. Tests at Woodslee Experimental Substation, Ontario, show that all these crops benefit from nitrogenous fertilizers, the most economical on clay soils being ammonium nitrate, anhydrous ammonia and aqueous ammonia. The livestock man, on the other hand, can replace some of the nitrogen by growing legumes and returning manure to the soil.

J. W. Aylesworth, officer-in-charge at Woodslee, says that it is the poor physical condition of the soil, rather than lack of nutrients, that results in inadequate root development, and without a good root system, corn is more susceptible to weather damage than a healthy crop is.

He suggests that deep-rooted legumes should be included in the cropping program periodically to overcome this poor physical condition of the soil, which is attributable to continuous row cropping. The legumes restore fiber to the soil, and make it easier to manage.

Thresher and Combine Compared

A COMPARISON of the costs of the binder and stationary thresher with the swather and combine has been made, at the Melita Reclamation Substation, Man., using two identical rotations of summerfallow, wheat and oats. Each rotation had the same cultural treatment, but the two different harvesting methods were used, covering a period of 12 years. Included in the costs were depreciation, interest on investment for machinery, repairs, horse and man labor, and all other essentials.

The conclusions drawn were that the average cost of harvesting wheat with binder and thresher exceeded the average cost with swather and combine by \$2.40 per acre, or 13.2 cents per bushel. In the case of oats, the binder and thresher cost an average of \$1.89 per acre, or 4.7 cents per bushel, more than the swather and combine.

That is not the whole story. It was found that weed infestations were not as heavy on the binder and thresher rotation as they were on the swather and combine plots. Furthermore, in years of heavy straw residues, on summerfallow, the preparation of a seedbed for the second crop was difficult on the combine rotation. Second crop oats yielded consistently higher on the thresher rotation.

When it came to soil addicted to erosion, however, the combine left a crop residue which was of real benefit.

Moisture Comes First

TESTS of cereals and legumes as green manure crops at the Indian Head Experimental Farm, Saskatchewan, have shown in the past that, when possible, the crop should be plowed under and worked into the surface of the soil early in the summerfallow year. Sweet clover should be cut and the hay removed before plowing, and the fields can then be worked as regular summerfallow for the rest of the season.

For ample growth to use as green manure, it is necessary to wait until relatively late in June, when much of the moisture has been used by the growing crop. Furthermore, the heavy growth, plowed under, leaves the soil loose and more moisture is lost. It is much more important, under the dry conditions of eastern Saskatchewan, to conserve moisture in the summerfallow year, than to apply organic matter in the form of green manure.

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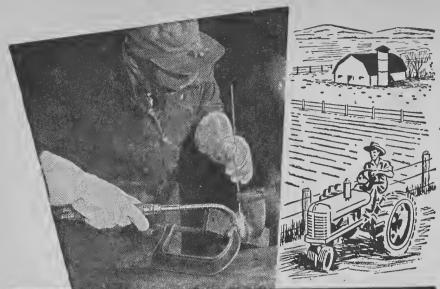
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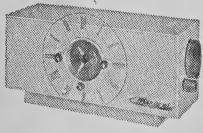
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HORTICULTURE



[Guide pho

This picture, taken on October 12, at the Forest Nursery Station, Saskatoon, shows part of a large display of chrysanthemums grown this year for show.

Tomato Quality Needed for Processing

Manitoban has a developing tomato canning industry. In 1955, ten acres were contracted for this purpose, and in 1956 the acreage was increased to 50. Dr. A. L. Shewfelt, Experimental Farm, Morden, says that the future success of the crop depends upon the ability of the grower to obtain high yields, along with desirable processing quality.

The most important single factor in processing quality is tomato color. Other factors are firmness, acidity, vitamin C and total solids content.

Color development is governed largely by ripening temperatures and for processing, should reach a deep, rich red throughout. Temperatures below 60° F. delay color development, while temperatures above 86° F. slow up, or prevent the full development of lycopene, the red pigment.

Damage To Evergreens

WINTER damage to evergreens is of two sorts, says R. W. Oliver, Central Experimental Farm, Ottawa. The first, and more common, is mechanical breakage, due to the weight of snow or ice on the branches. This damage is emphasized frequently when evergreens have been planted beside a roadway where snow is plowed back onto the branches.

The second form of damage is physiological. It arises from the fact that during winter, evergreen foliage always gives off a small amount of moisture, and when the ground is frozen there is very little flow of sap to replace the loss. Wind and sun also have a drying action, which increases this loss. Under such circumstances the foliage may dry out and turn brown, especially after warm bright weather in winter, and most notably on the south and west sides of the trees

Mr. Oliver suggests that the practical way to protect against this form of damage is to provide a burlap

screen on the south and west sides of new plantings, particularly to cut down wind and sun and keep moisture loss to a minimum, until the ground thaws and the roots can draw moisture from the soil. A screen is better than wrapping the plant.

Winter Flowers From Indoor Bulbs

NOVEMBER is the time to pot the the Dutch bulbs—hyacinth, tulip, daffodil, narcissus—that you want for flowering in January and February.

Pot them in soil containing a fair amount of sand, and store the potted bulbs in a cool, dark place where the temperature stays pretty constantly at 40° or 41° F. Keep the earth moist but not soaked with water.

P. D. McCalla, Alberta supervisor of horticulture, suggests that when the shoots come through two or three inches—after six or eight weeks—move them to a light position in the basement, until some change in color from yellow to green occurs. Then move them to a room that is still cooler than a living room until the leaves expand and the flower buds appear. After this, move them into the warmer room and get set to enjoy them. Blooms will last longer if kept out of direct sunlight.

Storages And Equipment

THE National Committee on Agri-L cultural Engineering, consisting of agricultural engineers from both the Federal and Provincial Departments of Agriculture, have produced a number of plans of buildings suitable for fruit and vegetable storages, as well as several useful types of equipment for such buildings. The service is known as the Canadian Farm Building Plan Service, and a publication has been issued which is an effective catalogue of plans for these horticultural purposes. Copies of the catalogue can be secured from agricultural representatives, as well as provincial departments of agriculture and experimental farms throughout Canada.

POULTRY



These five-week-old Leghorns in the brooder house at the Brandon Experimental Farm, Manitoba, are kept comfortably warm by two infra-red heat lamps.

Play Safe With Chick Brooders

HICK brooders can cause fires. It has been found in Saskatchewan that the two main causes are oil-fired brooders which have not been installed and serviced properly, and electrical brooders with heat lamps insecurely hung or located too close to combustible materials.

The Saskatchewan Fire Commissioner, R. A. W. Switzer, says that oil-burning brooders must not be in buildings where people live. A number of farmers use the spare room for chick brooding, and fires from this cause can be very costly. If electric heat lamps are used, the wiring should not be overloaded, and the lamps should be free of chaff and dust, as well as being hung securely and away from inflammable material.

Regulations for the use of oilburning brooders in Saskatchewan can be obtained by writing to the Fire Commissioner, Government Administration Building, Regina.

Crossbreds Not Always Best

TEARLY half of the chicks hatched in Canada are crossbreds. If they have hybrid vigor, they convert feed more cheaply into meat, grow more rapidly, and reach greater body weight than either of their parents. In the case of layers, crossbreds can lay more eggs and require less feed per dozen eggs than their female ancestors, and may improve fertility and hatchability.

Because not all crossbreds are superior, the poultry department of the Faculty of Agriculture, University of Manitoba, started a project three years ago to select strains and individuals capable of producing superior crossbreds. They have made over 100 different crosses, but only one appears to be consistently superior, and two others show promise, which demonstrates that very few parent strains, when crossed, complement each other.

It was found that strains of White Leghorns differed greatly in crossing ability with the same non-Leghorn parent strain, and results differed according to whether a specific strain of Leghorns was used as male or female parent. This shows that when

a superior cross is discovered, it can reproduce only by mating exactly the same male and female parent strains that were used originally.

Broodiness Still a Problem

BROODY hens are undesirable in the modern commercial laying flock, says F. G. Proudfoot of the Kentville Experimental Farm, N.S. They were a necessary part of the process of reproduction before the development of mechanical brooders, but all they do now is to lay fewer eggs than other hens, break eggs, soil other eggs and the nest material, and demand extra labor for their care.

One method of control is the use of a broody coop, where they are removed from access to eggs, and from the darkness and warmth of an enclosed nest, but this takes time in feeding and watering. Some poultrymen use a broody pen made of wire net across a corner of the laying pen, with the mechanical feeder passing through it, and equipped with an automatic waterer. But eggs laid on the floor must be removed promptly.

Selective breeding is showing much promise in the control of broodiness, but the broady coop and the broady pen are still the only sure methods, especially with the heavy breeds and crosses of heavy breeds.

"High-Octane" Feed for Layers

TODERN hens lay 10 per cent IVL more eggs annually than was once possible, and they need "highoctane" feed to do it, says Barry Hayes of the University of Wisconsin. He recommends a ration containing soybean oil meal, steamed bone meal or rock phosphate, fish oil, and manganese sulfate, which is most easily obtained in a ready-made concentrate. Home-grown corn and oats are fed with this in amounts recommended by the manufacturers.

It is true, he says, that a homemixed mash of ground corn, oats, wheat bran, middlings and meat scraps has been used with good results in the past, when birds averaged 160 eggs a year. But now we expect good laying hens to lay 200 eggs a



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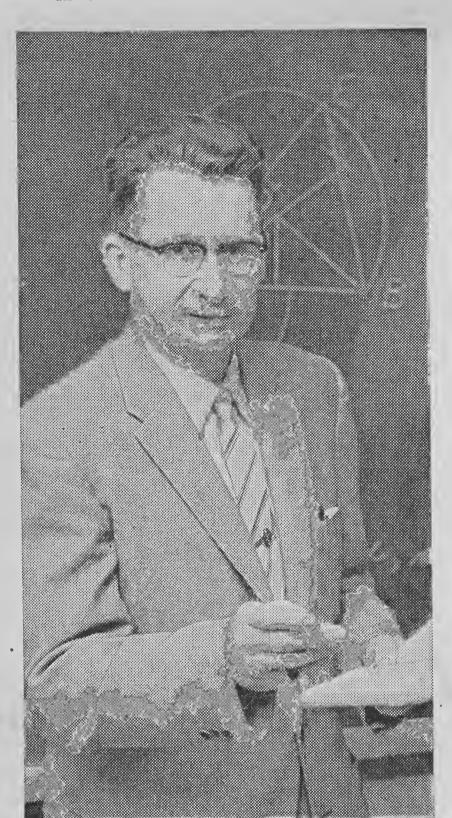




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William Macready chalks up two benefits from progress

High school teacher William Macready speaks with authority about progress in the vitally important field of education. "Today's improved schools," says Mr. Macready, "are the result of years of planning, research and experiment. Modern buildings and equipment make for more effective instruction. New teaching methods help students develop new skills and extra-curricular interests. Today, the teacher's task is more gratifying than ever."

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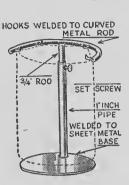
THE LIFE INSURANCE COMPANIES IN CANADA

WORKSHOP

Better Ways To Do the Work

Want a sack holder, or a weatherproof outdoor light? These are among the ideas shown here

Handy Sack Holder. Here is an idea for holding sacks when there is



only one man around. Weld four small prongs to a semi - circular bar, and weld a piece of %-inch rod at right angles to the bar. This is inserted into oneinch pipe, and

fitted with a screw nut to adjust the height for different sacks. Weld this to a base of circular sheet iron. The finished sack holder can be set right in the platform of a scale.-E.T., Alta. V

Pipe joints. White lead can be used for preventing leaks at thread pipe joints, provided pressures are not severely high, and the pressure is not turned on too soon. Red lead will harden more quickly, and is better when the pressure is turned on soon after the joints are made up. But white lead is more durable, and I prefer it if it can be given the time to harden. Using graphite, the threads can be made to seat better, and in a comparison with red lead on brass piping, I found that the red lead allowed 80 per cent of the joints to leak under pressure. After taking the line down and washing the threads with gasoline, a graphite mixture was used and all leaks were eliminated. -W.F.S., N.J.

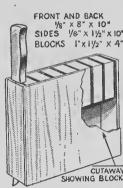
Cushion for Spade. A short piece of

garden hose, fitted along the HOSE ON SHOVEL top of a shovel BLADE PROTECTS blade, makes FOOT digging the garden easier on arches. Slit the piece of hose along its entire length, force it over the shovel



blade as shown, PLACE OVER TOP OF BLADE and your shoes and feet will be grateful.—H.M., Pa.

Holder for Knives. A good knife-

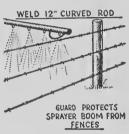


holder can be made from an old apple box, or similar scrap material. Cut two pieces of 1/8° lumber measuring 8" by 10", and then two more pieces 1½" by 10". Nail these strips and the larger pieces

together in a square, leaving the top and bottom open, as shown. Now cut seven pieces of 1" wood, 1½" x 4", and tack them across the top, leaving 1/8" space between each. Your knifeholder is now ready.-A.T., Alta.

Knee protectors. We all know that the best time to transplant in the garden is after a rain. But who wants either dirty pants through kneeling, or a sore back through bending? To cure both, I cut an inner-tube, about 6.70 x 15 (depending on the size of your leg), in a piece measuring 18" at the outer curved side, and 10" on the other. To get the difference in sizes, cut straight at the bottom end, and angled at the top. This will slip over ordinary boots to make hip boots, and you can kneel while transplanting, without getting wet.-Z.S.W., Man. V

Fender for Nozzle. Many times,



while spraying in the field, the last nozzle will catch in a wire fence and damage the boom. To prevent this, weld a 12" curved rod,

5/16" or %" thick, onto the boom, extending a little in front of the nozzle, as in the illustration.—M.M.E., Alta. ∨

Sewer lines. When laying any kind of sewer tile or open-tile septic system, wrap a few turns of bare copper wire around the tiles near each joint. This keeps moisture-seeking tree roots from entering and eventually blocking the tile. Even when sewer lines settle, and joints are no longer sealed, the copper kills the fine roots on contact, before the larger roots can develop.— S.C., Fla.

Chrome Protector. When you want to use a wrench

ture, the chances are you will spoil the finish, unless you use this device. Just stick a piece of adhesive tape on the inside of



both jaws of the wrench, and you can go ahead with safety.-J.J.W., Alta. V

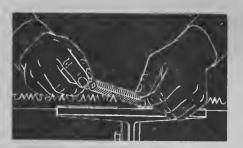
Fitting casters. Casters are liable to keep dropping out when you are moving beds or furniture. Wrap the shank of each caster with adhesive tape, until it will just go back in, and then it will run without falling out.-H.S., Mich.

Protection for Outdoor Lights. When electric light fixtures are exposed to the



weather, they are often damaged by rain or snow. To protect them, cut a hole in the center of an aluminum pie plate

and insert the plate between the outlet box and socket fixture, as shown. This will also help to reflect the light downward, and it makes an inexpensive yard light.—E.A.A., Alta.



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This wheelbarrow-type spray is recommended by the manufacturers for research stations, fruit and vegetable growers, poultrymen and home owners. It has a tank for 121/2 gallons, an agitator to keep solutions mixed, and pump 2 gallons a minute. F. E. (146)Myers & Bros. Co.)



This new auger wagon has a wheelspin friction clamp, which the manufacturers say will speed the positioning of the angle of the elevator. The clamp holds the elevator steady despite moving grain or vibration. Capacity is 50 bushels a minute. (Knoedler Manufacturers). (147)



Claimed by the manufacturers to have a battery which yields up to four times the life of the ordinary lantern battery, this new portable lamp for use in and around the farm has a circular, unbreakable clear chimney to give a wide circle of bright light. (Burgess Battery Co.) (148)



This new self-propelled hay baler, said by the makers to be the first designed for average-size farms, has one engine for the speed and another for baling, both controlled by one operator. The chute sends bales to the side, rear, or up an attachable hitch to a trailing wagon. (New Holland Machine Co.)

For further information about any item mentioned in this column, write to What's New Department. The Country Guide, 290 Vaughan St.. Winning 2. giving the ken number shown at the end of each item, as-(17).

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Young People

On the farm and at home



Quebec 4-H members plant young spruce trees in a forestry display. Conservation of natural resources and handicrafts are the main projects of Quebec's clubs.

Planting Future Forests



THIS month we salute Quebec's 4-H clubs. They have some unique features in their organization such as the maple leaf emblem shown here. In their motto the H's translated into English stand for:

"Honor in actions;
Humanity in behavior;
Honesty of means;
Handiness at work."

Most 4-H clubs in Canada have developed a variety of projects in many different phases of agriculture. Quebec clubs since their formation in 1942 have been primarily interested in forest conservation. Another unique feature is that their clubs are sponsored by industry and set up as private enterprises and not organized by departments of government as in the other provinces.

Quebec's 307 clubs with 9,600 members have undertaken many projects to improve and beautify their surroundings. Last year they planted 110,000 trees throughout the province—a total of 100 acres of land returned to forest. Ornamental trees and flowers were planted in school grounds and at Christmas 4-H members made special decorations to adorn the villages.

One project, the building of "4-H Relais" or picnic places along highways, has given pleasure to many visitors travelling through the province. Canada has too few pleasant roadside stopping places and other 4-H clubs may well take up this worthwhile project. A special bulletin on "Les Relais 4-H" is available from the Quebec Forestry Association, 915 Cyrille St., Quebec City.

A few clubs have built their own meeting hall, others have constructed shelters to use for picnics and holidays. The girls' clubs excel in handicrafts and cooking while boys learn taxidermy, plant identification and herbarium making. Quebec clubs have their own newspaper, "Notre Monde 4-H," published monthly.

Two years ago a Senior 4-H Association was added for older members from 15 to 20 years. These clubs are for those who have left school and gone to other occupations but who continue working for conservation of natural resources. Meetings consist of study and group discussion periods on forest management.

It is of interest that Quebec was the first province to use the 4-H name. The 4-H clubs began in the United States in 1914. The name and symbolic four-leaf clover were officially accepted with the passing of the Smith-Lever Act. The name was borrowed from the American clubs by the first Quebec club which was formed at Val-Brilliant in the lower St. Lawrence valley. Boys' and girls' farm clubs existing under various names in other provinces did not officially adopt the 4-H name and emblem until 1952.

Today there are approximately 75,-000 4-H members in Canada. More than 40 countries have organized 4-H clubs.



Gemma Bernier, Chandler 4-H Club. Quebec, weaves a "ceinture fleche."



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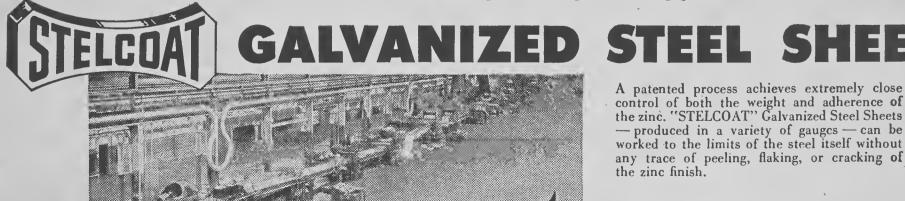
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ANGLE '

Power Saw For Farm Use

by RAY PETERSON



Ray Peterson finds several uses for a power saw on farms in woody areas.

Two seasons ago, I hung up my swede saw for good. In its time that old saw with its steel-bow frame, and thin, narrow blade had cut quite a few thousand logs and ties. Once I had thought it the ultimate equipment in one-man sawing. Now, however, a noisy, brightly painted chain saw, or power saw, has taken its place. The newcomer does the same job easier, better, and much faster, thereby turning in greater profits.

Although the power saw was purchased for the primary purpose of commercial log-cutting, I soon discovered that it could earn its keep on the farm as well.

A power saw can save a lot of time and heavy labor in clearing wooded land. It performs best in trees from four inches in diameter and up; small brush has a tendency to catch in the teeth. Besides, small saplings and brush can be slashed quickly with an axe or in many cases plowed under without being cut.

If there are no rocks in the way, willow crowns can be sheared through the center and stumps cut to within a few inches of the ground. A touch of the saw soon cuts bulky trees into short lengths, making it easier to pile them. Firewood can be cut into stovesize blocks right on the spot, getting away from all the heavy lifting of loading and unloading heavy rails.

THE usefulness of a chain saw does not stop in the woodlot, either. I have used mine for cutting timbers, and two by fours. It lends itself to trimming rail fences and corrals, and fence posts. It can be used for pruning trees and cutting large limbs. The construction of log buildings is made much speedier with the aid of a power saw.

Of course, in some cases, a motor-driven circular saw can do the job more quickly. The power saw, however, has the great advantage of being very portable. It can be used in almost any place, or position, and it takes only one person to use it.

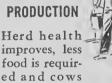
Like present-day automobiles, modern chain saws come in a wide range of sizes and styles, and the buyer has the opportunity of obtaining the ma-



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chine that is best suited to his needs. The initial cost is fairly high. On the other hand, their operating costs are extremely low. With a bit of reasonable care and the use of clean fuel at all times, most of the new power saws are reasonably foolproof. With two seasons of log and tie cutting, plus sawing firewood for a lumber camp, and various chores on the farm, the writer's saw has not had any repair bills other than those of general maintenance, such as a new chain, a few spare teeth, one new spark plug, and a set of breaker points. A lumberjack whom I know well has had a similar saw in almost continuous operation for four years and has yet to make any major repair. Another cutter in the same camp has had the same satisfactory results for two years.

All of these chain saws, employed commercially as they are, receive much more use than most farmers would ever give them. It would seem to follow that a power saw should give an average farmer many years of use before wearing out. This low operating cost, along with the amazing amount of work that can be accomplished with it, should make a power saw a worthwhile investment for many farmers.

Sheep for Grassland Farming

HEEP do just as well as any livestock on a grass farm," according to Duncan and Edward MacDonald, who farm about 800 acres on Wolfe Island in Lake Ontario, just off the mainland, at Kingston.

In 15 years they have built their flock to 280 ewes. They have had their share of ups and downs with the oldest of farm animals, and still can't deny that they have done well with sheep over the years.

Duncan is a husky young man who confesses to a love for the woolly creatures, and devotes more time to the flock than does his brother. He recalls that they began with Oxfords and other of the older, and now less popular, breeds. Their first rams were Cheviots and for a generation or two, the results were outstanding. Soon size began to slip, so they were forced to search for a different breeding program. Now Suffolks have proved their worth; and they are selecting



"All right, Alvin, you've trampled it down far enough!"

big individuals with good fleeces. This program is producing an acceptable type of commercial lamb.

Although sheep are known as hardy animals requiring little care, some jobs are essential in the eyes of these experienced shepherds. For instance, ticks were once a problem. Now a dipping tank has been installed, and last spring they couldn't find a tick in the flock. As a precaution, they treat for worms each year, as well.

The flock winters successfully in old barns on the farm, but now that it has become so large, they feel justified in building a new sheep barn. It is under way now, and will be an open-floored building, with gates to divide it into pens, as and when required.

Spring has been the only busy season for sheep. The warming sun brings lambing time and shearing time, and the MacDonalds supervise both jobs themselves, although they seldom stay up all night while at it. Occasional visits to the barn during the dark hours has proved sufficient.

Major expense with the sheep is the grain ration fed at lambing time. At that critical period, they buy a 32 per cent protein ration, mix it with crushed corn and cob meal, to give the ewes a boost before going to spring grass.

The brothers insist that sheep don't represent a quick way to riches, at today's prices, but they have found them to fit well into their grassland farming program, and to pay as well as other livestock would do.

Thieves respect property. They merely wish the property to become their property that they may more perfectly respect it.—Gilbert Keith Chesterton.

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Master Farm Families of Alberta

OOD farming, right living and clear thinking," said Hon. L. C. Halmrast, Alberta Minister of Agriculture, "are the concepts on which the Alberta Master Farm Families awards are based." He announced the 1956 winners recently, at the completion of the eighth year of the program, and said that the main objective of the competition was to provide a practical demonstration of how a family can succeed in agriculture, and community and home life.

This year's winners include a purebred Aberdeen-Angus breeder in the Lethbridge area, a sheep and cattle rancher in the Alberta foothills, a Viking farmer with a unique 14-year crop rotation, and a grain farmer in the Grande Prairie district.

The four Master Farm Families are as follows:



A. D. Fraser has 360 cultivated a cres in Grande Prairie district seeded to forage and cereals. He also has Shorthorns and Yorkshire hogs. His family is active in community and United Church affairs. They have an attractive modern home.

A 14-year rotation of grain, fallow and grass is a feature of the John Rozmahel farm at Viking. Herefords and chickens are also kept. John is Reeve of Beaver, and his wife president of the Catholic Women's League for the Viking area.





Alfred Rose of Rocky Mountain House keeps one of the most productive sheep flocks in Alberta, and also tends beef and dairy cattle on his ranch. He grows all his own livestock feed. This family has done much valuable work in the community.

Wilfred McGillivray, noted Aberdeen-Angus cattle breeder, runs his Coaldale farm co-operatively with his three sons. Crops include grain and forage, potatoes, sugar beets and peas. They combine a busy farm life with service to their neighbors.







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Chevy goes 'em all one better—with a daring new departure in design (looks longer and lower, and it is!), exclusive new Turboglide automatic transmission with triple turbines, a new V8 and a bumper crop of new ideas including Fuel Injection!

New right down to the wheels it rolls on — that's the '57 Chevrolet!

By now you know it's new in style. But treat yourself to another look. Let your eyes linger on that stylish new bonnet, that daring new grille, the deeply hooded headlights, the saucy new slant of those High-Fashion rear fenders. Chevy's new and Chevy shows it all over! It's longer and lower for '57. And Chevrolet's new in lots of ways that don't show up in our picture. It's new in V8 power options that range up to 245 h.p.* Then, you've a choice of two automatic drives as extra-cost options. There's an even finer Powerglide—and new, nothing-like-it Turboglide that brings you Triple-Turbine take-off and a new flowing kind of going. It's the

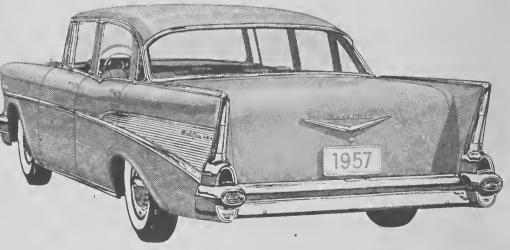
only one of its kind — the newest, sweetest, smoothest automatic of them all!

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Greatest engine advance since overhead valves! Chevrolet engines with Ramjet fuel injection, available at extra cost in the Corvette and passenger car models, deliver up to 283 h.p. Come see the new car that goes 'em all one better — the new 1957 Chevrolet!



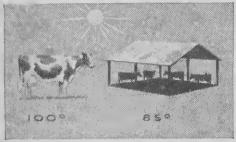
*(Special high-performance 270 h.p. engine also available at extra cost.)



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Livestock stay healthier, eat more, gain more, and are worth more money when they are comfortably protected from both intensive heat of summer and extreme cold of winter.

These are facts proved through research by the U.S. Department of Agriculture and leading agricultural colleges.

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In summer, Butler aluminum roofing reflects heat, lowers temperatures a full 15 degrees by actual test. Big doors and roof ventilators permit ample air circulation. In hot and temperate climates, Butler open-sided field shelters provide cooling shade and maximum air circulation.

In winter, Butler metal buildings, with every die-formed piece snugged tightly together with weather-tight fasteners, provide comfortable, easyto-insulate shelter that can't be penetrated by cold, sleet or snow.

But you get more than livestock protection. Butler's tight construction also affords excellent weather-tight, rodent-proof feed storage. Forage stays cleaner, drier, is better for your livestock.

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Death Watch Beetle in B.C.

by P. W. LUCE

THERE are few buildings in British Columbia that are 100 years old, but these are all wooden structures. It is in this type of building that the death watch beetle is to be found. It has recently been discovered in enough places in the western province to give Forest Biology Laboratory officials some concern. A circular has been prepared on how the pest may be controlled.

There isn't much that can be done about the death watch beetle. It is a wood-boring insect of the genus amobia, and its origin in particular places is obscure. There may not be another death watch beetle within hundreds of miles, and then suddenly a fine grey powder is found at the base of some woodwork in an old house, and investigation shows that the place is riddled with the pest.

In England scores of centuries-old cathedrals, churches, and mansions have suffered damage amounting to hundreds of thousands of pounds sterling. Public appeals have been made for funds to do the necessary repairs, but though the affected wood is cut away and new beams installed, the trouble is merely postponed. The death watch beetle re-appears a quarter of a century or so later.

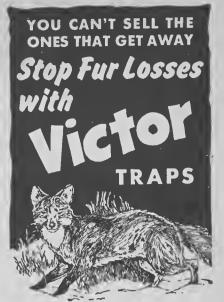
THIS wood-chewing beetle has been found chiefly along the coast, which is natural, because that is where old buildings are to be found. There were settlements inland 100 years ago, but the buildings then occupied have long since crumbled into dust, or been destroyed by fire.

The death watch beetle gets its unusual name because of a peculiar clicking noise, heard usually at night. This noise is said to be caused by the beetle striking its head or mandibles against the wood, while eating; but entomologists believe it is also a sex call from the male to the female. The acoustic properties of the dry old wood in which the insect has its burrows, carry the sound a considerable distance.

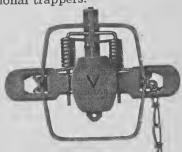


[Guide photo

An old cream separator can work for its keep. Jake Wambeke, High River, Alberta, uses the separator frame as a mount for a power grindstone, and the pail stand can serve as a seat.



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We Need More Bird Islands

Birds are profitable as boarders, because they eat mostly what we want to get rid of

by KERRY WOOD

HEN canoeing down any western river, the wooded islands are always worth a visit. Canada geese nest on them; so do the interesting fish-ducks called American mergansers, also noisy plovers and teetering sandpipers, and occasionally on the tops of island trees we've seen the massive stick-nests of osprevs, redtailed and rough-legged hawks.

Smaller birds of the warbler, thrush, and native sparrow families favor the islands for homesites, too. Have they learned, through years of trial and error, that the divided currents of the river provide watery moats between them and mainshore enemies? Or do they simply find living conditions better on islands, where drinking and bath water is always handy, where there is leafy shade among the trees, and lots of branches and driftwood piles to provide secret nesting sites? In any case, the smaller birds always thrive on river islands.



We need islands, says Kerry Wood, to encourage birds and keep them happy.

The popularity of such islands among birds gave us an idea when a few naturalists were developing a bird sanctuary near our town. Two small lakes were the scenic features of the preserve and waterfowl thrived on the lakes until human visitors in greater numbers began to alarm the ducks, the waders, terns and gulls. The shoreline near the main pathway through the sanctuary was the favorite place for waterbirds to preen themselves, but they resented the frequent visits of men and women and children, and deserted the lakes for a time.

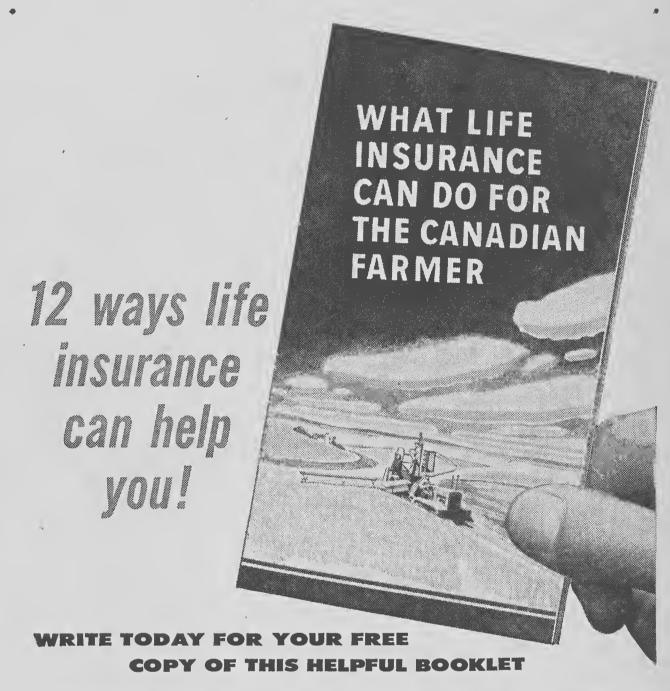
Then some of us remembered the natural sanctuaries provided by river islands, so we installed tiny, makeshift islands in the form of log rafts. Any deadfall material could be used to construct the rafts; then we wound wire around rock anchors and tethered the floating platforms a hundred yards out from shore. The results were excellent. Ducks, plover, terns, gulls, coots, even shy railbirds and awkward grebes paid frequent visits to those

floating islands so safely moated out from the populous shore. A muskrat built its vegetation nest on one raft, whereupon a lesser scaup duck constructed its home on top of the muskrat palace. The naturalists certainly proved the worth of raft islands in the bird sanctuary.

DEVELOPING the idea a little farther, there is a kind-hearted farmer living eight miles east of our town, who cannot bear to plow over a prairie chicken's nest, or a vesper sparrow's grass-lined home. He willingly foregoes the profits from a tenth of an acre to leave a grassy island around each nest and he has been following this practice for years. Today, his farm is pock-marked with tiny islands of brush and trees, some no

larger than 20 feet long by 10 feet wide, while others total a quarter acre in extent. As result of these treed islands, birdlife is always plentiful on his farm.

Then there was the bald prairie farm we visited last summer, where a shrewd land-owner had planted halfmile strips of caragana, Manitoba maples, laurel willows, and other fast-growing shrubbery, to act as wind-breaks and prevent soil-drift. The long brushy strips, or hedges, did far more than break the wind: they attracted birds to their sheltering coverts. It was marvelous to see the concentration of



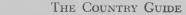
It will open your eyes to the many ways insurance is helping thousands of Canadian farmers make their lives fuller and free from worry and doubt.

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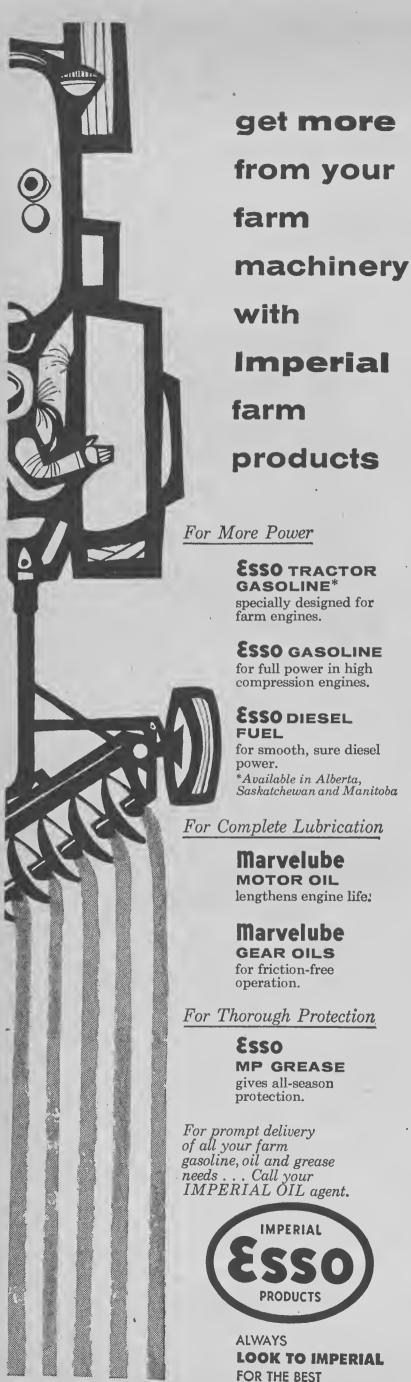
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34



small bird life there, among those long-shaped islands of brush.

AM convinced that tree islands should be developed on farmlands throughout the West, because such shelters attract birds. Without birds, no farmer in the land could raise a profitable crop. This is an actual fact, though farmers rarely realize the astounding worth of birds as weed and insect controllers. On the arable lands of each of the three prairie provinces, counting five birds per acre as an average population, the avian host destroys better than 3,000 tons of harmful insects in each province every single day!

Birds require far more food in relation to size than humans, often to the extent of devouring four and five times their total body weight in insect fare every day. Nestling birds are fed over 300 times each during the daylight hours. The constant search for food proves amazingly valuable to man's economic interests. For example, the stomach of one meadowlark contained fragments of no less than

100 cutworms, 50 grasshoppers, and 200 weedseeds. Song sparrows, vespers, clay-colored, and many other varieties of that numerous tribe, destroy about 75 insects and 100 weedseeds every day. The beautiful Mourning Dove eats upwards of 1,000 weedseeds daily-there is a record of one dove stomach containing no less than 7,000 weedseeds! The stomach of one Franklin's Gull examined by an ornithologist revealed remnants of over 300 grasshoppers devoured during that day-and gulls also eat cutworms, wireworms, weevils, ants, beetles, bugs, flies, and even the harmful field

Hence it is easy to understand why we should encourage more of these beneficial birds on every western farm. One sure way of attracting birds is to provide them with shelter and nest-sites - in other words, brushytreed islands created in the midst of large and bald grainfields. And besides the practical value of bird islands, consider the scenic charm they would add to the already beautiful farmscapes of the Westl

Dairymen with Faith in Cheese

Patrons of four small factories combined to build a new co-operative plant, since when business has improved



Allen Ketcheson, president, and Ken Bateman, member of the dairy Co-op, think dairy prices are looking up and that the Co-op has helped local dairymen.

OME of Ontario's best cheese is made in a district north of No. 7 highway, a territory that many travellers believe is a rock-strewn waste, ideal for hunting and fishing, but certainly not for men of the soil.

But dairy cows have been grazing some surprisingly fertile fields in the area for generations. And now, in the district north of Madoc in Hastings County, dairymen are taking the lead again in expressing their faith in the dairy cow and the checse business.

Their eves have been on the modern trend in almost every industry, toward bigger plants and more up-to-date machinery. So in 1950, after watching their cheese industry slide toward a depression, with loss of the British market, a few dairymen decided it was time they did some modernizing

Members of four small and illequipped cheese factories began talking about a new factory. "The cheese business," they maintained, "can still have a future, if it is brought up to

Seventy members finally agreed to abandon the old and outmoded facilities of their old plants. They bought shares at \$100 each, and formed the Eldorado Cheese and Butter Producers' Co-operative. A federal grant gave them half of the \$65,000 required to build their new factory. The provincial government lent them half the remaining sum. Their dreams became a reality.

Now, in the succeeding five years, production has jumped to 428,000 pounds in one season, as more dairymen have begun to patronize it. Their clarifier assures them of low-sediment cheese. And a new spirit has infected the dairy farmers using the plant.

Allen Ketcheson milks 25 to 30 cows the year round. He takes advantage of the fluid milk market at Bancroft to the north, in winter, but ships all of his milk for cheese in the grass season. He insists that with their new facilities, the cheese market can be as profitable as that for fluid milk.

Mr. Ketcheson, who is now president of the Co-op, says that last year the average price was \$2.26 per cwt., one of the highest prices in the County. Too, the cheese milk is produced from lush spring and summer grazing, when costs are at their lowest. He expects a much higher price in the future, once the Co-op becomes more solidly established, and the cheese business gets through its present difficult times.

He notes a firmer cheese price this summer. The farmer's best customers, Canadian consumers, are eating good cheese, and more of it, now. He is confident that the cheese business, just now emerging from its most troubled period since it became a good market for Canada's early livestock farmers, is in for a bright future.

Roughages as Livestock Feed

Continued from page 9

often appreciated is that the reduced intake of poor forage rather than its degree of digestibility is the major factor in the economics of forage feeding. A few results from one of our recent feeding experiments will illustrate the situation. Five different forages as hay were fed in rotation to five different sheep in such a way that all the sheep eventually were fed for 60 days on each forage. The roughages were straw, timothy, brome grass, red clover, and birdsfoot trefoil; and feeding was ad libitum. The figures in the table tell what happened.

There is much more to this roughage story, but perhaps enough has been said to indicate what appears to be the basic problem in roughage utilization. Forages that are inherently of low lignin content, or which are fed before extensive lignification has occurred are potentially of high feeding value and will be eaten in large enough amounts to meet maintenance needs plus moderate production. The table suggests that one will not be far wrong if he rates forages in over-all feeding value according to the relative amounts in which they will be voluntarily eaten by stock. Forage which is indifferently eaten is poor feed, regardless of any other characteristic.

(Note: Dr. E. W. Crampton is chairman of the Department of Nutrition at Macdonald College, Province of Quebec.—ed.
∨

Cattle Round-Up In Ontario

Continued from page 13

Right across that cattle country, cow herds graze and are milked for the creamery. Beef cows nurse their calves on summer grass too. Then, as calves or yearlings, the young stock is sold to buyers from old Ontario,

Ask these high-plains prairie farmers why they prefer

CAT* D2 TRACTORS:





Remember last winter when old-time blizzards isolated many farms? It won't happen this year to the families with Caterpillar D2 or D4 Tractors! Your dealer is standing by to make immediate delivery on a surestarting, all-weather Cat Diesel Tractor. So safeguard your family and livestock—handle all your heavy-duty farm work—improve your farm in your spare time. Call your dealer. Name the date, he will demonstrate.

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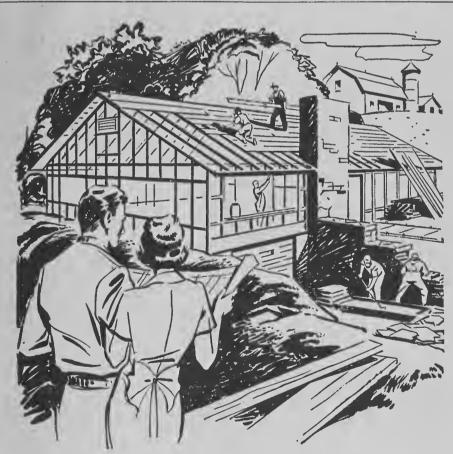
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who must turn their higher-cost grass and grain to its final form.

Like giant bazaars, the people make big social events of sale day. For local people, it's holiday and business combined. For visitors, gathering together with local producers and buyers from across the province, the sales mirror the beef industry of the province.

FOR instance, Tom Carroll from Dunrobin in eastern Ontario, has travelled to Little Current on Manitoulin each of the past 13 years to buy cattle in every sale. D. E. "Pete" Croskery from Kinburn has done the same. They buy what they can there. Then they head west, or instruct agents there to fill their remaining winter needs of about 200 cattle each.

Pete Croskery buys 850 - pound cattle, the kind that will fatten without grain. Half of them are wintered on his 700-acre home farm after they get a month's good fall grazing. The remainder are wintered by farmers at a fee. Corn silage, hay, and then grass, should give him better than 300 pounds gain in 11 months.

Tom Carroll feeds six pounds of grain (70 per cent western barley, 30 per cent oats, along with two pounds of steer concentrate with stilbestrol per head per day) during the final six weeks of the grass-fattening period. He aims at 325 to 350 pounds of gain per head.

Stewart Brown from Shedden in south-western Ontario is another annual visitor to the northern sales. His animals, like most cattle in his cash crop district, may be fed more liberally on grain, but grass and roughage are still the pillars of his feeding.

The sales represent immense community enterprises. At Manitoulin, for instance, with over 3,000 cattle to sell on the Thursday of sale week, cattle begin arriving the previous Friday. They come in drives of 50 or 100 head or more, trailed through rough scrub grazing land, or along main highways. From one area, cattle are loaded on a boat and floated down the island's coast before trailing to Little Current.

They come off small farms or big acreages, in threes and fours, or in dozens, joining the cattle of neighbors for the annual march to Little Current.

ISLAND truckers face an endurance test, too, as they move the cattle to the sale. Men like Harold Noble with three trucks on the road, one of which he drives himself, are going from five in the morning until midnight for three days, getting the cattle in.

At the sale yard, cattle are rough sorted, with heifers, steers and cows grouped into separate pens. Entry fees have been \$1 per head, plus 2½ per cent of the selling price. But first, a \$5 life membership is demanded.

Seventy-five men are working at those yards, mostly members who have come in to help, for the directors each have responsibility for some part of the operations, and they line up their men. Each man earns \$5 a day, plus room and board.

Cattle arrive with neck tags, which are removed after sorting and weighing. They are sorted for color, size and type, weighed and grouped into carload lots, and have water and hay in front of them in every pen. Next year, this sale will have a carlot scale so that cattle can be weighed right into the auction ring.

On sale day, the entire community seems to turn out as they come to meet neighbors, watch the auction fever, see prices and compare cattle.

Old-timers say that comparison has worked wonders. Penalties for horns have virtually eliminated these weapons on the entries, and good bulls have brought type and uniformity. Buyers say there is something about northern cattle that makes them much like western cattle in thrift and vigor.

On sale day, those carloads will be sold in about four smooth-running hours, and within half an hour after auctioneer Dunc Brown's gavel comes down for the last time, they will be on the train and moving to their destinations in old Ontario.

THE sales have caught on for keeps now. The most recent, that at Parry Sound, was initiated by the local soil and crop improvement association. The president, Frank Rick, says that after some preliminary work had been done in 1953, the biggest crowd in the history of the local seed fair turned out to hear Dick Graham of the Ontario Livestock Branch, and Bill McMullen of the Federal Production Services, describe the successful sales at Manitoulin and Thessalon.

The Parry Sound sale at South River, built with the sweat of local farmers, sold 1,200 cattle in 1953 and 1954. Then, in 1955, the total entry was up near to 2,000, additional pens were built to handle them, and this year 2,966 were sold. Membership in the co-operative has jumped from 305 to over 400.

The older sales gloated at the hysterical bidding of 1950 and 1951, survived the succeeding price slumps, and continued strong. This year you could sense a disappointment with prices at some of the sales. You could see plain cattle going begging compared to better years. The heifer market was at a low ebb.

There is plenty of work to be done in the north yet to bring it into more even competition with the ranches of the west, as a source of feeder cattle. But the sales are adequate proof that producers have had enough of the old drover, the isolated selling, and the unequal bargaining between the fully informed and shrewd dealer and the man of the soil.

1956 CATTLE SALES

	WIARTON	MANITOULIN	THESSALON	SOUTH RIVER
Gross Value	\$265,480	\$369,532	\$164,730	\$238,472
No. cattle	2,079	3,088	1,646	2,966
Top price	2%c for 17 head 768 lb. steers	19½c for 38 steers at 650 lbs.	201/4c for 38 calves av. 610 lbs.	\$18.75 on 39 white-faced steer calves at 505 lbs.
Total		780 head, value—		505 lb

How busy men across the country keep their cars rolling on winter roads





Quebec, Que.—Mr. Edouard Grenier, Manager of Yellow Taxis Limited in Quebec city, writes: "We have used Suburbanites for about five years. Before that, broken chains often caused damage

to our cars and lost time for our drivers. But since we started using Suburbanites, we have done away with all these troubles and no longer buy chains."



Moose Jaw, Saskatchewan—Mr. C. Fletcher, who commutes by car to and from his work at Libby Auto Service daily, says: "I have had a set of Suburbanites on my car for three and a half years. On my way to and from work, I have to negotiate two long, steep hills and I have yet to be stalled due to snowy or icy conditions. I have passed literally hundreds of other Moose Jaw motorists who have been stalled due to lack of traction."



Suburbanite: Reg. T.M. The Gaodyear Tire & Rubber Co. of Canada Limited



4 Waters, Sales Manager, writes: "I've done a lot of winter driving since my family took up skiing as a winter sport. Last week-end, on the narrow snow-covered road from Huntsville to Limberlost Lodge, an oncoming car forced us into the ditch. But our Suburbanites got us out quite easily. Many times, my Suburbanites have kept us rolling when cars with other tires were stuck in the snow or on hills"

6 Here's why: See those 464 separate tread blocks. They're set at angles to grab into the snow. And they're flexible—don't clog up with snow—always ready to bite, much like a skiers' skis climbing a hill.



2 Calgary, Alberta—Mr. J. R. Andrews, an employee of the Calgary Post Office, says: "It wasn't until I actually put these tires on and tried them that I knew—tow jobs, spinning wheels on icy roads, are a thing of the past. My Suburbanites will be on and pushing every winter from now on."



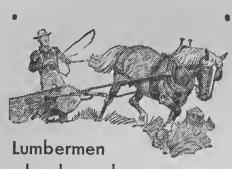
Winnipeg, Manitoba—Mr. Ron Ayers, Commercial Photographer, praises his Suburbanites like this: "Doing construction photography takes me into all the new developments around Winnipeg. This winter has been the toughest I've ever known for snow and poor roads. I can thank my Goodyear Suburbanites for getting me in and out of these places with no loss of time. I use them year 'round because they are terrific in mud too."

Quiet running on bare pavement, too. See your Goodyear Dealer for Suburbanites, either tubeless or tube-type, black or white wall. Also available in sizes to fit 1957 cars.

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A finishing rub with Absorbine con prevent lay-offs due to golled shoulders or sore necks. By treating bruises and swellings with Absorbine early, it's possible to prevent o mare serious case of ringbone ar bog spavin. Does not blister skin. Only \$2.50 for large bottle ot all druggists.

W. F. Young, Inc., Montreal 19, P. Q.

Aya-oo

Continued from page 12

me only a .22. If I didn't get Aya-oo soon, John would.

I bungled the only chance I had that winter. Early one Sunday morning I picked up Aya-oo's track. The snow was soft and silent, and my skis ran easily. Mile succeeded cold mile. My mitts were thin and my hands got cold; so I held my .22 loosely in one hand and blew warm breath into the other as I moved swiftly along the track. I followed the track down a long slope toward a bush-encircled slough. As I swerved around, Aya-oo jumped out of his nest almost at my ski tips. He was vanishing into the willows by the time my numbed hands got the rifle up into position.

JOHN missed his chance too, but he came much closer. There was a soft spell during the late winter, and most of the snow melted. With the week's chores done, John walked down the pasture, his .30-30 under his arm, to look for what he might see. Aya-oo was also out that day. The unseasonable warmth must have lulled his fear of hunters. Over the crest of a hill John saw the big coyote working his way up a valley toward him. The animal sniffed at a tuft of grass, left it, and half-carelessly stalked an early gopher that was sunning by its hole. The gopher squeaked and went to ground. Aya-oo aimlessly scratched at its hole and pushed his long nose into it up to his eyes. Leaving the hole, he passed on up the valley.

The coyote saw John as the gun swung up. As he bounded away there came the crack of the rifle, a thudding impact, and Aya-oo stretched his length on the moist grass. John's wild whoop rolled across the prairie. Later he told me shamefacedly that he should have stopped then and pumped another shot into the downed covote. Instead he ran toward Aya-oo and struggled up the steep bank on the other side of the valley. He found only a patch of blood where the coyote had lain. Aya-oo was gone, and the patchy snow denied any faint hope of tracking him.

Aya-oo did not die from his wound. When the spring symphony of the coyotes began, once more we heard his deep bass bark. Now he sounded less the frivolous, yapping, deepvoiced pup, and more the full-throated, experienced coyote. My trap and John's gun had taught him something of the facts of life.

We'd taught him too much. For the next four years neither of us laid a rifle sight on him. We tracked him and hunted him and I set traps for him, but he tossed over my sets and never let us get within gun range. I lost other coyotes, too, when Aya-oo spoiled many of my sets.

Other men got word of the big covote and began to hunt him. We wished them no success. If we couldn't get him, we most certainly didn't want anyone else to have him. We had found him, and we figured he was ours. For a while we thought the hounds that were ranging the country might pull him down. We were soon reassured. One day we were standing on the west bank of a narrow lake east of our buildings and heard the far-off opening notes of a hound pack. John's glasses revealed a coyote moving south on the far bank, with ten or a dozen hounds in panting pursuit. The coyote went steadily on. Large size, complete self-possession—it was Aya-oo!

A black-and-white hound separated from the pack and pressed the coyote close. Aya-oo held his even pace. When he was almost opposite us, we saw him suddenly put on a great burst of speed. Then, in a valley out of sight of the hounds, he turned at a right angle and went over the top of the bank to the east. The hound pack streaked on to the south. John and I smiled contentedly as we walked home that night.

The dogs did not always get off so easy, and it was their owners who gave Aya-oo his wide reputation. The big coyote had learned that the most dangerous dogs are not the speediest runners, and was quick to turn this knowledge to his advantage. He'd run fast until the fleetest hound was separated from the pack, then slow up until the dog was pressing close. Suddenly he'd turn, flash flat on the snow and, with a sudden snap, break a hurtling hound's leg. He'd be gone before the heavier killer dogs came up.

This sort of thing soon earned our coyote a reputation. It also concentrated the hunters in his pursuit. But he ruined a lot of valuable dogs, and the owners of hounds soon decided to let him alone.

TWICE over the next few years I I had the coyote dead to rights and could have shot him dead at pointblank range. But I didn't shoot. Afterward I reproached myself bitterly for letting him go, although I now know why. In the split second my finger tensed on the trigger I subconsciously realized that the prairies would not be the same without him; so I held my fire. The long years of hunting Aya-oo had become a part of my life. Deep down I knew that half the fun of my hunting would be gone if Aya-oo were killed. He and I were like two neighbors I knew; they had feuded all their lives, but after one died the other was never the same.



Even a feud can give a man purpose

The first of these passed-up chances came when some local men organized a rabbit drive. Coyotes would be taken, too-for their pelts. A chickenwire funnel was built and the menone hundred to a side-drove toward it from ten miles in each direction. Most of them carried shotguns to kill escaping coyotes.

I picked up Aya-oo's track as we drove across our north pasture. He was moving in the direction of the hunt, and we were then only three miles from the rendezvous. He'd double back soon, I thought; I couldn't believe that Aya-oo would run on to be clubbed to death in a chicken-wire

I picked up his track and dropped a hundred vards behind the line of beaters. That's how I came to see Aya-oo. When I saw that the trail was leading toward a bushy slough, I crouched down behind some buckbrush and waited for the hunt to pass the slough. As the men got well past I saw a movement in the brush, and Aya-oo bellied out and came sneaking right toward me. My shotgun was over my knees, and I slipped the safety. Aya-oo came to within ten feet of me. A quick blast and it would be over. But I didn't blast him. Instead I got up. Aya-oo stood in shocked rigidity for a split second then kicked up long streamers of snow as he drove wildly back the way the hunt had

The next chance came two falls later. The season had slipped by, the poplar leaves had turned yellow, and the sedge in the slough bottoms was harsh and brown. I went out early one morning to pick off a white-tailed deer, selected a spot against a dead poplar, put the .30-30 over my knees, and waited, as the early morning sun rose, for a buck to come to his favorite feeding ground.

A bush rabbit burst from the sedge right in front of me. Hard on its heels came Aya-oo. The rabbit catapulted past, but the coyote, suspicious, hauled up scarcely twenty feet away.

I should have been shooting, I suppose, but instead I was busy noticing that his coat was lighter and his frame bony. That was the only conversation we ever had. "Aya-oo," I said to him, "we're getting older."

Aya-oo turned and moved slowly away, glancing back over his shoulder. A tuft of buckbrush came between us, there was a spurt of dust, a flash of brown, and Aya-oo was gone.



"Why, hello there! Come in! Come

THAT fall, when the north winds rattled the bare black branches in the tree-filled coulees and the snow scythed across the prairie hills, John's gun and mine hung on the livingroom wall and no one hunted Aya-oo. I was in the city attending college, and John was busy with the cattle herd. For the first time in his life Aya-oo didn't have us on his trail.

When the Christmas holidays came, I returned home. Driving out from town, my dad told me that he'd been losing poultry to coyotes-two or three that were hanging around the farmyard. Instantly I got busy planning my trapping and shooting strategy for the next two weeks.

When we reached home, John and I took three traps and went down to where he and Dad had dumped the remains from butchering. The coyotes had been around the offal. Though we'd boiled the traps, we still burned a light cover of straw over the set. That night there was a light fall of snow and no wind, which should have made the set perfect.

In the morning I found all three traps tossed over and could see where a coyote had been chewing on the bait. I dogtrotted along his track over the fresh snow. I hadn't gone more than a mile when I saw that the track was heading toward a low patch of buckbrush. Leaving the trail, I swung toward a hill from which I'd be able to look down and shoot into the patch of brush if a coyote was in it.

I didn't watch as closely as I should have, and the coyote that slipped out picked up fifty yards before I saw him. He wasn't going fast, but he was close to 250 yards away-a long shot for my .30-30. I dropped down to a

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Interior view of one of the McQuay broiler houses. Note the large number of feeders and waterers.

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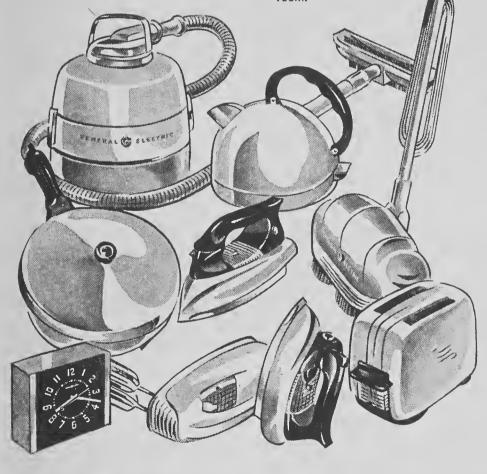
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CANADIAN GENERAL ELECTRIC COMPANY LIMITED

sitting position, threw a bullet, and saw it toss up snow just short. The coyote didn't break loose, but still loped steadily. I raised my sights, fired again, and knocked him down.

The possibility of its being Aya-oo never really crossed my mind until I got up to the animal. But it was Aya-oo, and why he hadn't moved faster I'll never know. My bullet had struck near his shoulders, breaking his back. He was down but not dead.

Aya-oo was thin and scraggly. The slow attrition of the years had worn him down, and I doubt that he'd have lasted the winter. Victorious now -and my victory earned with a long shot-I felt my exultation tinged with a deep regret. Delivering the coup de grace to this old antagonist was one of the toughest things I've ever been called upon to do.

When I stood over his dead form, I knew why I had not killed him on my two earlier chances. As I looked across the hills, the range I shared with Aya-oo, I knew that something had gone from these old hunting slopes and that they'd never be quite the same again. When Aya-oo died, the book closed on my boyhood. Death had claimed the covote; duties far from these hills were claiming me.

That is why, instead of pelting Aya-oo, I took a pickax and dug a grave in the tough, frozen soil on the highest hill in the area and buried him. I rarely see those prairies any more, but Aya-oo still looks down over the great sweep of country where we fought our twelve-year battle a long time ago. I like to think of him there, for I left part of myself there too. V

Part-Time With 300 Ewes

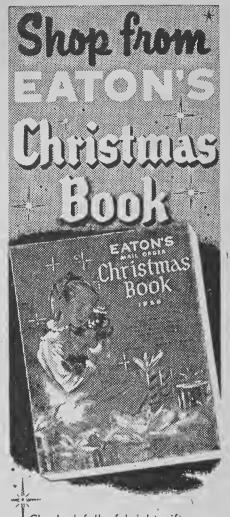
7HAT would you do with 400 acres of light and sometimes rocky land, if you could only devote part time to it? Norris Whitney, of Consecon, in Ontario's Prince Edward county, found this question easily answered.

Mr. Whitney sits in the provincial legislature. In winter he is in Toronto much of the time. His busy season as an accountant working at farmers' income taxes, is in April, prior to the tax deadline.

This means that he isn't really free for farm work until May 1. However, his' 400 acres is good sheep land, and Mr. Whitney has found the wool producers flexible enough in their habits to allow a lambing season beginning

As a result, 300 ewes run the Whitney farm. His overhead for this enterprise is low. One man cares for them during winter when Mr. Whitney is away, and the sheep thrive in old barns and sheds that are already on the farm. They are fed outdoors, even in winter.

The ewe flock, although of mixed breeding, is made up of big strong individuals, with the old Oxford bloodlines showing through in many cases. Cheviots and Suffolks have been used to clean off their faces, and now he has ordered a North Country Cheviot ram.



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Against one of the drawn and colored panels Jim LeGallez adds finishing touches to a basket.

HE new church will be finished by the end of October," said the Rev. Edgar S. Bull, of the Church of the Good Shepherd, Hamilton, Ontario. "Now, our big problem is paying off the mortgage." He looked around the parish hall. "Any suggestions?"

For a few seconds there was silence. "A bazaar," mumbled a voice from the back row. Almost immediately there was a groan. "Bazaars are just a lot of work," protested someone. "The same old faithfuls do all the work and then turn up to buy their own things back."

"But if we could have a different sort of bazaar," said Margaret Gartrell. "Something that would bring in people from outside the parish."

"Bazaars can't be different," said several people together.

Margaret Gartrell was not convinced. "If we had it in November," she said, "we could use a Christmas theme." Because no one could think of a better way to raise money, and because everyone was anxious to go home, a bazaar committee was formed, with Bill Lee as Chairman.

MARGARET GARTRELL kept right on thinking about a bazaar that would make everyone sit up and take notice. Christmas—that meant Santa Claus and Christmas trees and carols. That was it! A Christmas Carol Bazaar, straight from the pages of the Dickens' classic. Margaret began making plans at once and by the time the first meeting of the committee was held, she had a page of neatly typed notes ready to sell her ideas to others.

It didn't take much selling. Margaret Gartrell's enthusiasm was contagious. By the end of the first evening, ideas were popping up from everywhere.

The usual booths gave way to shops. "A street of shops," as Bill Lee suggested, assigning two shopkeepers to each location. Dora's Delicatessen would feature home baking, candies, relishes and the like. An old-fashioned post office, presided over by a costumed postie would offer parcels from around the country, priced at 25 cents each. A plea for parishioners to remember to mail small gifts home in order to stock the post office went out in the next church bulletin.

The Crachitt's—with Tiny Tim, of course, could operate a Chips and Pop Shoppe; there would be a Tea Shoppe for those who wanted to sit and chat a while; a flower cart; a booth of gifts for Mom and Dad—priced within the means of the youngsters; a Woole Shoppe; a Guessing Stall. By the end of the evening the problem seemed to be whether or not there would be enough space in the parish hall for all the shops.

The appointed shopkeepers canvassed the 200 parishioners, asking for help—donations of goods, of time and materials. The response was greater than anyone had dreamed it would be. Here was a bazaar that was to be different—one that sounded as if it would be fun. And everyone seemed to want to be a part of it. Work went on through the summer and by October things were in full swing.

The Countrywoman

In November mood, we present a story of a novel type church bazaar by guest contributor

LORRIE McLAUGHLIN

Finally the date was set-November 26 and 27, from 2 until 9 p.m. each day.

The Young People's Association volunteered to operate an Orange Tree—presided over by a costumed Scrooge—reformed, of course. They spent two evening meetings wrapping small gifts for children in orange paper and made arrangements to secure a giant Christmas tree.

MARGARET GARTRELL and her committee were busily making plans for decorations. Shops were made from a wooden framework, fronted with wrapping paper marked off in imitation bricks. Ornate, old-fashioned lanterns dangled from each booth. Behind the booths were beaverboard panels with scenes drawn in India ink and colored with poster paint depicting episodes in the Dickens' story—Bob Crachitt, Tiny Tim, Scrooge, and the Spirit of Christmas Present.

The shopkeepers began a systematic canvass for costumes so that the setting would be in harmony with the theme and spirit of the bazaar. Attics and cellars were raided and members of the Women's Association set to work with sewing machines, ingenuity and a variety of odds and ends. By the 26th of November there was a costume ready for every shopkeeper.

The advertising committee went to work in October. A banner painted by Carmen Furler, a member of the A.Y.P.A., was strung across the driveway leading to the church. Posters painted by the young members went up in neighborhood stores. Because the bazaar was "different," local radio and television stations gladly gave it free publicity. A parishioner with a camera took some pictures of the decorations and the handicraft. Copies of the photos along with a writeup, were sent to local newspapers. Both papers printed the pictures, together with a story and arranged to send photographers down to cover the opening. As a final touch, members of the A.Y.P.A. donned costumes and rode through city streets, on a sound truck, advertising the bazaar.

Two weeks before the bazaar was scheduled to open, Margaret Gartrell came up with another idea

—"a prize turkey." She persuaded a local merchant to donate a 20-pound turkey, to be delivered to the lucky winner a week before Christmas. To draw attention to the guessing booth, she "made" a turkey. And such a turkey! Beginning with a discarded suit of long underwear, Margaret began stuffing and shaping a bird. The legs of the suit made the drumsticks, the arms, the wings. She laced the front opening with twine and painted the finished bird a golden, roast-turkey brown. When "that bird" went on display he looked good enough to eat!

ON the opening day everyone connected with the bazaar developed a strong case of first-night jitters. "Suppose nobody comes!" someone said. "Or worse still, suppose they come and are disappointed!"

"We might not make any more money with this bazaar than we have in the past—and it's been such a lot of work."

"But it's been a lot of fun, too," insisted one shopkeeper. "As far as I'm concerned, it's a success before it opens!"

But like most good stories, the Christmas Carol Bazaar story had a happy ending. People came in large numbers, not only from the parish, but from nearby towns as well. They were not disappointed for they liked what they saw. They were thrilled as they stepped through the door of the parish hall, into an atmosphere of the storied past. This surely was a bazaar, quite "different" from any which they had before attended! They strolled down the "street" visiting individual shops, enjoying their shopping or a leisurely pause for tea. They admired the colorful and effective background panels, depicting scenes and characters from Dickens' Christmas Carol. There was fun in identifying familiar figures, or in just watching the interest and delight of friends and others.

After the two-day bazaar closed, the committee met to total receipts and balance expenses. The financial statement showed a net profit of \$1,115.23. Its members who had put so much effort and thought into our church bazaar, sat back and sighed happily.



Shopkeepers wore costumes of the era Dickens brought to life in his story "The Christmas Carol."



A wiggley pull toy delights the toddler.

Toys for Children

A child learns many things through his play—some important points to keep in mind when selecting toys—regarding age, interests and development of children at various ages and phases of natural growth

by PHYLLIS A. THOMSON

LAY is a child's business. It is important business for him too. A child learns more through play than any other single activity. Space, toys and materials for play are as necessary to his all-round development as are food and sleep. With his play area as a shop and his toys as tools, he works at play. If he has a good assortment of toys his play will be of many kinds. With certain equipment he uses his body vigorously, he creates and changes other materials to meet his needs. Through toys he is led to the land of make believe and to recreate for himself situations he has seen and met.

Since more toys are bought during the Christmas season than at any other single time during the year, it might be helpful to review various points in choosing toys. To select the right toy for the right age, it is first necessary to understand the function of play. Some parents feel that play is simply a means of keeping a child out of mischief or to amuse him. They fail to realize that play is basically cducational—for the child as well as the adult.

In swimming or a game of golf the grownup gets pleasure at least in part from trying to improve his muscular co-ordination. In a card game he enjoys acquiring greater skill at matching wits with his opponents. At social gatherings he gains stimulation from what he learns from others. In the same way a child's play serves to foster his muscular and mental co-ordination. Unless toys help foster this growth they are likely to be discarded or broken.

That toys are more than things to merely amuse a child may be a new idea to some parents, but to teachers and others trained to work with children it is a tested and proven story. The first four or five years of a child's life are spent almost entirely within the family circle - largely with his mother. He is growing and learning at an enormous rate. It is during these years that a child forms most of his adult patterns of living. Consequently it is essential that when a child plays, he should be using those playthings which will help him develop to the greatest possible extent - physically, mentally, creatively and socially.

Toys should suit the individual needs of a child. These vary with his age. Wooden construction toys such as "tinker toys" are frustrating to a two-year-old, interesting for a "four" but too restricted and unreliable for an "eight." If a child shows a special talent, for example, along artistic lines, give him toys that will encourage and develop his interest. Plasti-

cene, modeling clay, painting sets, crayons and colored pencils are ideal. If your little girl shows an interest in the domestic field (and what little girl doesn't) she will love a rubber doll she can wash, tend and feed, or a set of cooking utensils "just like mummy's." For a child who delights in making things, one of the many construction outfits would be enjoyed.

When buying, check to see that the toys are well designed and constructed. A baby rattle will be chewed, banged against the crib, followed with the child's eyes and listened to with delight, so it should be *safe*, unbreakable, bright and noisy. Safety and

"hair styled" have endless play possibilities.

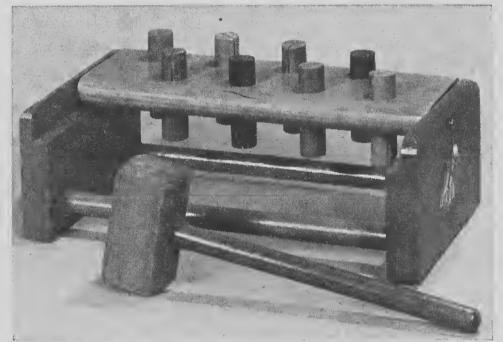
Toys may supplement one another. If your daughter has a set of pots and pans she would probably like a tea set scaled to the same size and a table and chair set at which to entertain her friends for tea. For the future town planner wooden people, cars, trees and buildings should be in scale with building blocks so he can learn to organize his "town." Children may tire of the same toy or set and yet, find infinite joy and interest in another type of the same thing. For example, a boy may like a log-house building set although he is tired of blocks.

broaden his interests. Quiz games or puzzles may win the attention of an overactive child and so help to quiet him for certain periods of time.

Often, it is the least expensive thing that a child will choose for a favorite toy. Every toddler goes through the stage of having endless fun banging spoons on a collection of pots and conducting his "orchestra." To save wear and tear on mother's equipment, an inexpensive "line" of utensils for the child himself make excellent play materials. If you are really resourceful you can find unusual items such as combination locks, order pads and so on that have infinite play possibilities.

TOY manufacturers have made L many changes in their products during the past few years. They are using many new materials, designs and finishes to improve those already on the market. Versatile plastic is appearing in many new forms: from a little doll's bath equipped with taps, to a model freight train complete with streamlined diesel engine, tankcar, boxcar and caboose. Unlike the hard plastics which tend to crack and break easily, this new type polyethylene is light, soft and flexible and can be jumped on, thrown about and generally maltreated for a long time without coming to grief. This indestructible quality has made it a particular favorite for small fry who have a tendency to chew, throw and bang almost anything they pick up.

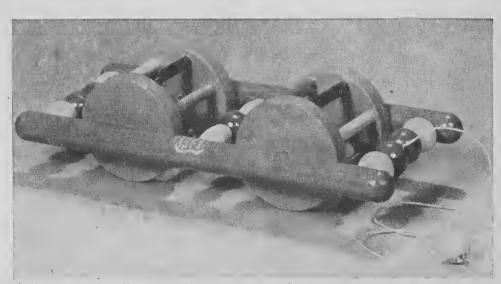
One manufacturer has put out polyethylene toy blocks which don't fattle the house when they tumble from a "London Bridge" arrangement. Manufacturers of doll clothes have also made dramatic changes. They are now being made with easy dressing features—large seams, large armholes and openings, roomy cuts, hooks and snaps or large buttons and non-shrinkable materials. Some clothes are even sized



Bright colored pegboard, one of the best toys to interest small children.

durability are major considerations in any toy. Toys for very young children should be smoothly constructed with no sharp edges and dyes should be colorfast and non-poisonous so that when he puts them in his mouth you can be sure there will be no dire results.

Toys should stimulate a child's imagination. In general, most children like to experiment and toys that are mechanical, performing only one act over and over again, often become boring to a child and usually end in a broken heap. Play sets that supply basic materials but leave much to the child's imagination are the most satisfying. A multi-purpose toy has a longer play life and is a better buy. One of the most useful of these is a set of unit blocks—they are enjoyed by children from the toddler to ten-yearold. As the child becomes older his uses for the blocks will be different but at any age they stimulate his imagination. For little girls dolls that can be changed, washed and perhaps Toys may stimulate a new interest for a child. If he is rather reserved and shy and prefers books, puzzles and indoor activities if left alone, a piece of outdoor play equipment such as a tricycle, wagon, child's tractor or car may be all that he needs to



Gaily trimmed pull toy intrigues attention of an active, enquiring small child.



Wide variety of rubber toys for baby.

according to the length of the doll. For older girls there are doll clothes with fussy details and a choice in variety of styles and materials.

It is important to have a proper place to store a child's toys. The old-fashioned and popular "toy box" is somewhat limited in its use. True, it keeps the toys in one spot and out of sight, but think what may happen to the toys. Often cars come out of the box minus a wheel, others are crushed and it's difficult to see or find toys at the bottom of the box.

A good, inexpensive means of storage is a series of low shelves on which toys can be grouped so that a child can see at a glance what he wants and put it away easily when he is finished. Shelves can be covered with sliding doors, curtains or left open. Making toys readily accessible means less mess, more care and greater play value.

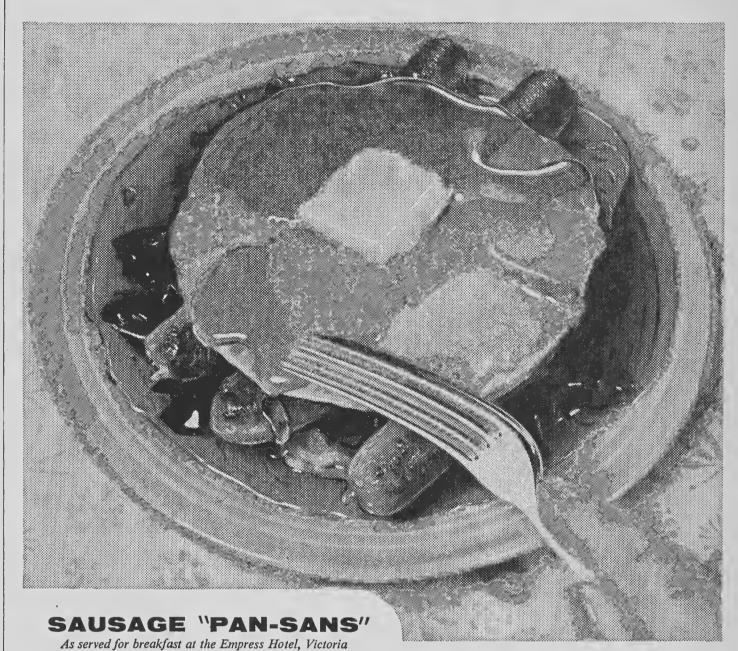
Not all play equipment has to be stored in one area. Junior's books, records, and quiet games may be kept in the living room. Messy art supplies such as finger paint, paste and plasticene are better left in the kitchen, and constructive materials, in the child's own room.

FOR parents, relatives, or any person who will be buying toys this Christmas, here is a more precise list of gifts that are suitable and interesting to each age group. If you are not sure of the child's age, make it a point to find out.

For the infant, rattles, blocks with bells inside, teething bands, floating animals for his bath and washable animals are best. The "creeper" loves cuddly dolls and animals, large soft balls to reach for, lids to bang and fit together, toys for his sand box, blocks and peg cars he can push. At the toddler stage also known as the "no" stage, the child is primarily interested in climbing and balancing. He likes trucks to ride, cars to straddle, doll carriages to push, planes, boats, cars and toys he can push and pull. At the creative stage, tempera paint, blunt scissors, large sheets of paper, colored pencils, plaque puzzles, peg boards, stringing beads, wooden constructive trains and unit blocks are best suited to his capabilities.

Children of three and four are great imitators. They love to dress up like Daddy or Mummy, pretend they are doctors, nurses, cooks, etc. They also like climbing apparatus such as jungle gym, a teeter-totter, slide, small hammers and little shingle nails, blackboard and chalk, scissors, old cata-

Robin Hood Flour the one flour best for all your baking!



3 cups sifted Robin Hood Vitamin Enriched Flour

6 teaspoons baking powder

1 teaspoon salt

1/4 cup sugar

2 eggs, beaten

31/4 cups milk

6 tablespoons melted shortening

11/2 lb. sausages

Red jelly

Maple syrup



BANDED BAG:

of fine quality cotton . . . paper label soaks off in minutes — no ink to wash out.

While sausages are cooking, mix and cook pancakes.

Sift dry ingredients together. ("Bake-Tested" Robin Hood Flour always blends so easily, smoothly. And it gives you uniformly best results, no matter what you're baking.) Combine milk, beaten eggs and melted shortening. Add all at once to dry ingredients. Mix only until dry ingredients are moistened. Batter will be lumpy. Drop onto hot griddle, greased for first pancake only. Cook until puffed and bubbly and underside is golden. Turn and cook on other side.

Sandwich cooked sausages and red jelly between two fluffy pancakes. Top with melted butter and maple syrup. Makes 20 pancakes or 10 "Pan-Sans"... most delicious you've ever tasted, or your money back — plus 10 percent!



logs and scrap books, pieces of colored construction paper of various textures, paste, paint, sewing cards, clay and plasticene, more advanced puzzles, toy people and animals, large wood or metal trucks, cranes and cars, housekeeping equipment, simple doll clothing with large buttons and shoe boxes to make into trains or doll beds.

A child of five likes similar toys to the threes and fours but a little more advanced. Scooters, roller skates and skipping ropes, a children's clock for learning to tell the time, metal construction sets, accessories for playing cowboys and Indians, doctor and nurse, doll house and doll furniture are all wonderful for this age.

Once a child goes to school he is ready for more advanced play equipment. Rings and parallel bars develop his physical skills. Advanced construction sets, science sets, electric trains, printing sets with large letters, real tools, wood carving, model building sets aid develorment along creative lines. Girls enjoy handicrafts-knitting, embroidery, sewing, simple weaving on hand looms and make-it kits. Both boys and girls enjoy the social contacts they make with other youngsters at school. They should be encouraged to join with friends in jacks, marbles, skating, swimming, baseball, football or tennis.

By the age of eight or ten a child has usually developed fine muscular skill and shows evidence of the competitive spirit. He enjoys boxing, stilts, a bicycle, sports equipment, more advanced science sets, railroading sets, printing press and advanced model crafts. Girls prefer shell craft and modelling materials, dressmaking and designing sets, maps and jig-saw puzzles. At this stage both begin to take an interest in basketball, ping pong and small group games such as scrabble, checkers or monopoly.

The young teen-ager demands more factual knowledge and more specialized hobby interests. Boys begin to enjoy photography, books, records or stamp collecting and typewriting. Both girls and boys may show an interest in puppets, drama, in target shooting games and shuffleboard.

O^{UR} list isn't complete by any means but it may provide a few new ideas in selecting toys. It is not necessary to spend large sums of money in order to find toys that appeal. Often the simplest arrangements or a toy that Dad has made himself will be enjoyed more than an expensive one. Several university extension departments distribute free booklets or pamphlets giving instruction for making toys. If you wish assistance along this line write to the extension department in your province.

Another excellent source of information about toys and children's activities in general is a booklet entitled "What's What for Children," compiled by the Citizens' Committee on Children, a branch of the Canadian Association of Consumers. It is particularly useful and valuable as the information pertains to products that are either made or are available in Canada. It is priced at 25 cents and may be obtained by writing to the National Printers Ltd., 401 Preston Street, Ottawa.



Toy machines operate and look real.

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on Bread or Toast



Delicious CROWN BRAND Corn Syrup is the energy food that everyone loves. For betweenmeal snacks, or as a delicious dessert, spread CROWN BRAND on bread or toast and serve it to your youngsters. They'll ask for more...and so will the older members of the family. Serve it often to insure that EXTRA ENERGY so vital to active children. It's good for them...and it's good for you, too!

EVERYONE NEEDS

Gifts from the Kitchen

Plan now to bake some of your own Christmas gifts to share with special friends and relatives



Gaily packaged cookies, bars and candies make welcome gifts.

ABOUT this time each year, we begin making Christmas gift lists for friends and relatives. The gift problem is usually solved quickly for most people but there are others that you can't seem to decide upon. For those friends "who have just everything," are ill, away from home, or pose a problem for one reason or another, why not give them a homemade gift.

Almost any family would be thrilled to receive a box of home-made "goodies"—candy, cookies, small cakes, a rich fruit cake or plum pudding. You may have favorite recipes which are the envy of your community and which your friends would be more than delighted to share. Or you may prefer to tantalize them with exciting new treats. A few suggested ideas are offered here.

Making and baking such gifts requires planning and a little extra effort. But many cooky and candy recipes can be made in extra large quantities to satisfy your own family as well.

To make the gift packages look especially attractive, use transparent plastic boxes. They can be obtained in most five-and-ten stores and add so much to the resulting parcel that they are well worth the small cost. Or you may wish to use gaily colored cardboard containers. To keep your gifts really fresh, delay packaging until a few days before Christmas. For candies, use individual paper cups and cardboard strip "dividers" between each row to keep the box neatly arranged.

Give a special Christmas touch with bright red or green ribbon, gay gift wrapping, tinkling bells or colored pine cones. Let your imagination "run riot" and come up with unusual, sparkling ideas. You'll have as much fun making Christmas gifts as your friends will have receiving them.

Shortbread Cookies

½ c. corn starch 1 c. flour ½ c. icing sugar 1 c. soft butter Sift together corn starch, icing sugar and flour into bowl. Blend butter into dry ingredients with spoon until soft dough is formed. Chill ½ hour if very soft; shape into balls 1 inch in diameter. Place on ungreased cookie sheet about 1½ inches apart; flatten dough with floured fork. Decorate with chopped nuts, candied cherries or peel, if desired. Bake in slow oven (300° F.) for 20 to 25 minutes, or until edges are lightly browned. Makes 3 to 4 dozen.

Butterscotch Squares

2½ c. sifted flour 3 eggs, unbeaten
3 tsp. baking 1½ tsp. vanilla
powder 1 c. chopped nutmeats
2½ c. brown sugar 1 pkg. chocolate
½ c. salad oil bits

Stir together first three ingredients. Combine sugar and salad oil (or melted shortening); add eggs separately, beating well after each addition. Stir in vanilla, nuts and chocolate bits mixing thoroughly. Add sifted dry ingredients; stir until completely blended. Spread dough in two greased 8-inch square pans; bake in moderate oven (350° F.) 25 to 30 minutes. Cut into squares while warm; dust with icing sugar if desired. Makes 4 dozen.

Crunchies

34 c. sugar
34 c. corn syrup
34 tsp. salt
1 c. peanut butter
1 c. puffed wheat
4 c. corn flakes, slightly crushed
1 c. crisp rice cereal

Put sugar, corn syrup and salt into saucepan. Place over low heat. Cook, stirring constantly, until sugar is completely dissolved (180° F.). Remove from heat. Add peanut butter. Stir until blended; quickly mix with the last three ingredients. Press into 8-inch square pan.

Salted Nuts

Arrange 1 c. nutmeats (walnuts, almonds, pecans, etc.) in shallow pan. Add 2 T. butter to nuts. Bake in moderate oven (350° F.) stirring frequently (when butter is melted) until nuts are lightly browned. Drain on absorbent paper; sprinkle with salt.

Orange Walnuts

1 can (6 oz.) 2½ c. shelled frozen orange walnuts juice 1½ c. sugar

Blend together orange juice (undiluted) with sugar and stir over low heat

New idea! "Yeast-Riz" crust makes mouth-melting



TUNA-ONION Brown-Up



Scald 1/3 cup milk. Stir in 1/4 cup shortening, 6 tablespoons granulated sugar and 1/4 teaspoon salt. Cool to lukewarm.

Meantime, measure into bowl 1/4 cup lukewarm water. Stir in 1 teaspoon granulated sugar. Sprinkle with contents of 1 envelope Fleischmann's Active Dry Yeast. Let stand 10 minutes, THEN stir well. Stir in lukewarm milk mixture. 1 well-beaten egg and 11/2 cups once-sifted all-purpose flour; beat until smooth. Work in an additional 11/4 cups (about) once-sifted all-purpose flour. Knead. Grease top. Cover. Let rise until doubled in bulk—about 11/2 hours. Punch down; divide into 3 pieces. Roll each into 10-inch circle and press firmly into 9-inch pie pans. Crimp edges. Brush with 1 slightly beaten egg white. Let rise until doubled in bulk—about 20 minutes. Prick with fork. Bake in

moderate oven, 350°, 8 minutes. Do not brown. Fill and bake—or cool, stack and wrap partially-baked crusts in foil and refrigerate up to 10 days. Yield: 3 pie shells.

TUNA-ONION BROWN-UP

Melt 2 tablespoons margarine in a large frying pan. Add 2 cups thinly-sliced onion; cook until tender. Add 1 can (approx. 7 ounces) tuna fish (drained and flaked)—or use 1 cup diced cooked poultry, 4 sliced ripe olives (optional), 1½ teaspoons salt and ½ teaspoon pepper; heat well. Meantime, scald ¾ cup milk. Stir hot milk into 2 beaten eggs; mix in 2 cups shredded Swiss or old cheddar cheese (½ pound). Turn hot tuna mixture into one "Yeast-Riz" Crust; pour hot cheese mixture over it. Bake in moderate oven, 350°, 20 to 25 minutes. Serve hot. Yield: 4 to 6 servings.

A week's work in a wink!

Make light, tender "Yeast-Riz" crusts on Tuesday . . . and store them in the refrigerator till needed. Fill one with tangy tuna filling on Wednesday . . . one with beef stew on Saturday . . . another with chicken a-la-king on Sunday. They brown in mere minutes . . . are always wonderful when you use Fleischmann's Active Dry Yeast! If you bake at home, keep several on hand for tempting main dishes . . . at a moment's notice!



NEEDS NO REFRIGERATION
ALWAYS ACTIVE, FAST RISING
KEEPS FRESH FOR WEEKS



It's Lipton Soup so it's—"More, Daddy! More!"

It's a good thing there's enough for "seconds" when you make Lipton Chicken Noodle Soup because the children will surely call for them! They love the golden egg noodles and the flavorful chicken broth.

Lipton is so rich in flavor because you make it yourself—right on your own stove. It tastes home-made because it *is* home-made—and so quickly. Just empty the packet into rolling-boil water and in a few minutes you have rich nourishing soup that's good for the whole family.

And it's so handy for mother when it comes to shopping and storing. The neat foil packages are light to carry and space-saving to store.

Try it this week—and you'll buy it every week!

THE WHOLE FAMILY WILL LOVE ...

LIPTON CHICKEN NOODLE

PUT IT ON YOUR SHOPPING LIST NOW!



OTHER VARIETIES:
Also Beef Noodle, Tomato
Vegetable and Onion



only until sugar is dissolved. Heat to 240° F. without stirring, or until a small amount dropped into cold water forms a soft ball. Remove from heat and add walnuts. Stir until mixture begins to thicken, then drop from a teaspoon onto sheets of waxed paper. Approximately 1½ lbs. candies.

Quick Popcorn Balls

¼ c. melted butter½ c. granulated½ c. popcornsugar½ c. corn syrup½ tsp. salt

Heat butter in 3-qt. kettle over medium heat for 3 minutes. Add popcom; cover, leaving small air spaces at edge of cover. Shake frequently over medium heat until corn stops popping. Mix corn syrup, sugar and salt together; add to popped corn in kettle; stirring constantly over medium heat 3 to 5 minutes, or until corn is evenly and completely coated with mixture. Remove from heat; form into balls using as little pressure as possible (butter hands). Makes 6 balls. Note: Do not double recipe. For Caramel Corn follow above recipe. After removing from heat, spread on waxed paper and separate pieces of popped corn.

Chocolate Fudge

2 1-oz. squares 1 tsp. light corn unsweetened syrup chocolate 2 T. butter 34 c. milk, scalded 1 tsp. vanilla 2 c. sugar

Melt chocolate in milk. Add sugar and corn syrup; cook slowly until sugar dissolves. Cook gently to soft-ball stage (234° F.) stirring frequently. Remove from heat; add butter and cool to lukewarm (110° F.) without stirring. Add vanilla; beat vigorously until fudge becomes thick and loses its gloss. Quickly spread in greased pan. When firm, cut in squares. One c. broken nuts may be added. Makes 2 dozen pieces.

Chocolate Flake Candy

1 c. chopped 1 lb. sweet milk chocolate
1 c. chopped dates 2 1-oz. squares
5 c. corn flakes unsweetened chocolate

Combine pecans, dates, corn flakes and salt. Melt sweet and unsweetened chocolate in double boiler; pour over corn flake mixture; mix lightly. Drop from teaspoon onto waxed paper. Chill. Keep in cool place. Makes 4 dozen.

Peanut Butter Roll

milk 3 T. melted butter
½ c. chopped ¼ c. graham
pecans cracker crumbs

2 T. dark molasses

Cream together peanut butter and sugar; beat in milk. Shape into a 1-inch roll. Combine pecans, coconut, ½ c. cracker crumbs, melted butter, molasses. Pat mixture around roll. Roll in ¼ c. cracker crumbs. Wrap in waxed paper; chill. Slice. Makes 25 to 30 pieces.

Tutti-Frutti Bars

 ¼ c. butter
 ½ tsp. vanilla

 ½ lb. marsh ½ c. chopped

 mallows
 percans

½ c. chopped 1 5½-oz. pkg. crisp rice cereal

Heat butter and marshmallows over hot water till thick and syrupy. Beat in vanilla. Add cherries and pecans. Place crisp rice cereal in large pan. Pour marshmallow mixture over, stirring briskly. Press into greased 9" x 9" x 134" pan. Press extra candied cherries and pecans into top of mixture, if desired. Makes 12 bars.

Marshmallow Nut-Puffs

Dip marshmallows in hot cream, flavored with vanilla, until outsides of marshmallows are soft. Roll in finely ground pecans, moist shredded coconut or chocolate decorettes; flatten slightly.



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Rice Ground the Clock

A boon to the busy housewife, rice can be served plain, as party fare or as a main course dish



Serve baked hamburger rice ring for a tasty, economical family dinner.

NOR hundreds of years rice has been the staple diet of millions of people living in the eastern part of the world. Westerners, although not dependent upon it for their existence regard it as a desirable item to add to their meals.

Most of us have prepared rice for use in puddings. But how many have served it steaming hot as a vegetable in place of potatoes, as a border for a casserole of meat or fish, as a main dish or as an extender?

There are two types of white rice available. The whole grain type which requires fairly long periods of cooking and the newer quick-cooking type. The former needs to be washed thoroughly prior to cooking. Place rice in a strainer and permit cold water to run freely over the rice or immerse the strainer in several changes of water. This insures a purer, whiter kernel when cooked. Any darker grains should

To prepare plain boiled rice, wash. about half a cup of raw rice. Sprinkle into four cups of rapidly boiling water to which has been added one teaspoon of salt. Let boil uncovered, adding more boiling water if necessary. Keep water boiling rapidly in order to burst the starch granules. Cook 20 to 25 minutes or until the kernels are soft but not mushy. Drain off the water and immediately blanch by pouring cold water over rice to separate the grains.

A method used by many Chinese families is to place the desired quantity of rice in a saucepan, then pour in water. The amount required is judged by putting your hand into the saucepan and adding water until the liquid completely covers the fingers. Then boil, uncovered until no water remains. The rice will be light and fluffy and if properly cooked, no rice should be stuck to the bottom of the

Use of the new quick-cooking variety will save the homemaker time and energy. "Instant" rice is pre-cooked and requires only a few minutes' heating before serving. This rice can be used to advantage in any recipe which uses rice as an ingredient.

Budget Day Dinner

1 lb. steak Pepper 3 T. butter c. tomato sauce $\frac{1}{2}$ to $\frac{3}{4}$ c. rice, 1 T. meat concenwashed 2 onions, sliced 1 small green 1 bouillion cube pepper, sliced 1 c. hot water

Brown steak in butter. Put into 1-qt. casserole. Sprinkle in rice, onions, and green pepper. Season with salt and pepper. Pour tomato sauce over rice. Dissolve meat concentrate in hot water and pour over mixture. Bake in a moderate oven (350-375° F.) for about 1 hour. Makes 4 to 6 servings.

Baked Hamburger Rice Ring

1 lb. hamburger ½ c. chopped T. fat celery 2½ tsp. salt c. rice, washed 1/4 c. chopped 1/4 tsp. chili powder onion4 c. tomato juice

Melt fat in heavy 11-inch skillet. Brown rice slowly in fat, stirring constantly. Push rice to sides of skillet to form a ring. Combine hamburger, chopped onion, celery and seasonings. Fill center of skillet with hamburger mixture. Pour tomato juice over surface of meat and rice. Bake in moderate oven (350° F.) for one hour. Serve from skillet.

Tiny Meat Balls in Mushroom

3/4 c. hot milk 1 lb. ground beef 1½ c. soft bread 1/4 c. flour crumbs 1 can tomato soup 1/4 c. finely chop-1 can cream of ped onions mushroom soup 11/3 c. packaged 1/4 c. butter 1/4 tsp. nutmeg pre-cooked rice ½ tsp. salt 1 tsp. salt 1/8 tsp. pepper 1½ c. boiling 1 egg, slightly water beaten

Pour hot milk over bread crumbs and set aside. Saute onion in butter in frying pan until golden brown. Remove from heat. Add onion to bread crumb mixture and mix well. Add nutmeg, 1 tsp. salt, pepper, egg; mix well. Add ground beef and mix thoroughly. Shape into 1-inch balls and roll in flour. Brown meat balls in butter remaining in frying pan. Com-

Only you and your Maic can make this blissful Mocha Pudding

Blended all through with chocolate sauce . . . served with chocolate sauce . . . this luscious Mocha Pudding is light and tender as cake! Words can't do it justice, but the folks at your table will.

> Don't all families, all guests exclaim over a real home-made dessert? And "real home-made" means you did it all yourself . . . with your own special care and fine ingredients. Dependable Magic Baking Powder makes the most of those ingredients, too. There's no substitute far the famous Magic way ... for lovely cakes and desserts, and



MAGIC MOCHA PUDDING

(Self-sauced with Chocolate)

3 ounces (3 squares) unsweetened chocolate

11/2 tbsps. corn starch 2 cups fine granulated

sugar 21/2 cups water 11/2 cups once-sifted

cake flour

21/2 tsps. Magic Baking Powder

1/2 tsp. salt

2 tsps. powdered instant coffee

6 tbsps. butter or margarine

1 egg, well-beaten 1/3 cup milk

1/2 tsp. vanilla

Melt the chocolate in the top of double bailer. Combine the corn starch and 11/2 cups of the sugar and stir into melted chocolate. Stir in water. Caok over law direct heat, stirring constantly, until sauce comes to the boil; cover and keep hot over boiling water until needed.

Grease a 6-cup casserole. Preheat oven to 350° (moderate).

Sift flour, Magic Baking Powder, salt and instant coffee together three times. Cream butter or margarine; gradually blend in remaining 1/2 cup sugar. Add well-beaten egg. part at a time, beating well after each addition. Measure milk and add vanilla. Add flaur mixture to creamed mixture about a third at a time, alternating with two additions of milk and vanilla and combining lightly after each addition. Turn batter into prepared casserole. Pour 2 cups of hot chocalate sauce over batter. (Keep remaining sauce over hot water to serve with pudding.) Bake pudding in preheated oven about 50 minutes. Pass remaining hot sauce.

Magic costs less than 1¢ per average baking

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that dry, hacking or phlegmy bronchial cough. Take Templeton's RAZ-MAH—the remedy specially made to relieve Chronic Bronchitis, Asthma and Hay Fever. Enjoy your work vour taking RAZ-MAH today. 79c and \$1.50 at druggists.

Specially formulated for babies! Breaks up phlegm-eases wheezing. bine soups. Pour over browned meat balls, cover; simmer 5 minutes.

Add rice and salt to boiling water in saucepan. Mix to moisten rice. Cover and remove from heat. Let stand 13 minutes. Serve meat balls and sauce with rice. Makes 4 servings.

Tomato and Rice Casserole

1½ c. packaged pre-cooked rice c. grated cheddar cheese

1 tsp. salt 1/4 c. finely chopped onion

slices crisp 21/4 c. tomatoes and cooked bacon, juice crumbled

Grease 11/2-qt. baking dish. Spread about half packaged rice in even layer on bottom. Cover with 1 c. of grated cheese; then add remaining rice. Combine tomatoes and juice, salt and onion in a saucepan, crushing tomatoes and mixing well. Bring to a boil. Pour carefully over layers of rice and cheese. Bake, uncovered, in moderate oven (350° F., 15 minutes); then remove from oven and spoon remaining cheese onto rice mixture around edge, leaving center uncovered. Sprinkle crumbled bacon over cheese. Return to oven and bake 5 minutes longer. Makes 4 servings.

Lemon Rice

½ clove garlic, minced2 T. butter 1½ c. packaged pre-cooked rice 1½ c. water

1 tsp. salt 2 T. chopped parsley

T. lemon juice tsp. grated lemon rind

Saute garlic in butter until golden brown. Add rice, water and salt. Mix just to moisten all rice. Bring quickly to a boil over high heat, uncovered, then cover and remove from heat. Let stand 13 minutes. Add parsley, lemon juice and lemon rind, mixing lightly with a fork. Serve with broiled or sauteed fish. Makes 4 servings.

Coffee-Rice Pudding

11/3 c. packaged pre-cooked rice c. strong coffee c. milk ½ c. seedless raisins 1/3 c. butter

3 eggs, slightly beaten 1 c. sugar 1 tsp. vanilla ¼ tsp. salt 2 c. milk

Nutmeg

Combine rice, coffee and 1 c. milk in top of double boiler. Cook over boiling water until rice is tender and most of liquid is absorbed (about 15 minutes). Stir in raisins and butter. Let stand, stirring occasionally with a fork until butter is melted. Combine eggs, sugar, vanilla, salt and remaining 2 c. milk, Mix well and add to rice mixture. Pour into greased 11/2-qt. casserole and sprinkle with nutmeg. Set casserole in pan of warm water and bake in moderate oven 40 to 50 minutes. Serve hot or cold with plain cream. Makes 6 to 8 servings.

Glorified Rice

⅓ c. rice 4 c. boiling water 1½ c. cream, whipped

1 c. canned crushed pineapple

Boil rice in water until kernels are tender. Add more water if necessary. Drain and wash well in cold water. Fold cold rice into whipped cream, then fold in pineapple. Chill thoroughly.

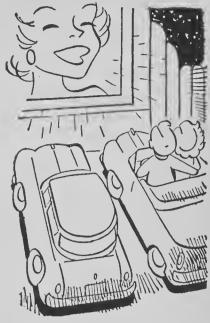
Rice Bavarian Cream

2 tsp. gelatin ¼ c. cold water 3/3 c. cooked rice 3 T. brown sugar 1 tsp. vanilla 1/3 c. heavy cream

 $\frac{1}{2}$ c. milk

Put gelatin and cold water in top of double boiler; let stand at room temperature 5 minutes. Place over hot water and stir until gelatin is dissolved. Add rice, milk, sugar and heat till sugar is dissolved. Chill until mixture begins to set; fold in whipped cream; pile in serving dishes and chill. Serve with sliced peaches, sweetened berries or maple syrup and toasted nuts. Omit sugar if maple syrup is used.

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by ANNA LOREE

Design No. C-S-617

Danville the Dachshund will be a welcome playmate for any member of the playpen set. Debonaire in coat tails and wide organdy collar, he will make a hit with old and young alike. The body is crocheted with a No. 2/0 crochet hook in black and flamingo. Scraps of black, white and red felt and ½ yard organdy material are necessary for extra touches. Cotton batting is used for stuffing. To give animal a perky look the body, legs and tail must be firmly stuffed. Design No. C-S-617. Price 10 cents.





Design No. E-1674

What could be more comfortable than these soft, flexible felt slippers? Lined with lamb's wool for extra warmth. A perfect Christmas gift and so easy to make, too! Materials required: ¼ yard felt, 36 inches wide, contrasting felt 5" x 11" (cuffs), pair lamb's wool slipper soles (medium), thread. Instructions are given for making slippers larger or smaller. Design No. E-1674. Price 10 cents.



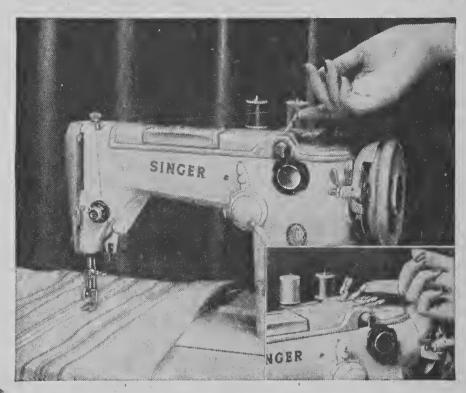
Design No. E-1584

Warm mittens, pretty to look at. quickly made. The backs are cut from felt, the palm sections from wool jersey. These would make suitable gifts or bazaar items. Mitten pattern is shown in actual size. Just trace outline using smooth tissue paper. Also included in leaflet is pattern for a plaid wool scarf. Materials required for mitts: 1/2 yard wool jersey (36 inches wide), felt (9" x 12"), pearl cotton size 5 to match felt, sewing thread, to match jersey, elastic 1/4" wide. Note: Leave 4-inch seams on jersey sections; felt does not require seam allowance. Design No. E-1584. Price 10 cents.

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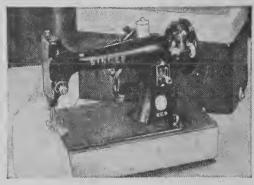


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I've Just Had an Operation

Some hopeful wishes directed to kind friends seeking ways to cheer and comfort a patient in hospital

by MAY RICHSTONE

OW is the time for all good friends to be apprised that I have just had an operation. The fates have toppled me low. I'm depending on science, nature and my friends to prop me up again.

Science needs no amateur advice from me. Nature, also, can perform miracles without my assistance. But you, my friends and family, you have healing powers uniquely your own. And here's how I wish you would use them to help me.

First, let me adjure you, like the ghost of Hamlet's father-though not in the same sepulchral tones - "Remember me!" In my vital past, I took myself for granted. Now I seem to be an absorbing bundle of fears and pains. The fears are nebulous. They stem from the feeling that I was standing with reluctant feet, one in this world, one in the hereafter. My pains are real, even though the doctors and nurses label them "discomfort." The pain won't be less, but it will be easier to bear, knowing that my friends are concerned about me.

One way to make me aware that I mean something to you is to pamper me. This doesn't mean impoverishing yourself. It's the little tokens of your devotion that loom large. For one perfect rose in a bud vase, I would happily forswear that huge basket of flowers that seems to bray, "Grand Opening!"

If you bring me a ball point pen, a small box of note paper, a few postage stamps, you'll rate high as my intuitive benefactor. No one ever had too many magazines, books or bottles of cologne. Every patient likes to offer her nurse a home-made cookie or a delectable chocolate, even if she herself can't indulge. Never mind a bon voyage size basket of fruit. Give me that cherished feeling on a smaller scale with a sample of any fruit that's out of season.

Pamper me, too, with a brief note or gay get-well card. You needn't stop at one. I'm greedy for evidence that somebody cares. The day is long and dull and mail is a highlight. While I open my daily quota, I bask in the illusion that life hasn't completely passed me by. No inspired literary feat is required. I'll be warmed not so much by what you write as by the fact that you took the trouble to write at all. If you can't visit me, a note will reassure me that you wish you could. I know you have a full life of your own. I'll happily settle for a few crumbs of your leisure.

And here's fair warning for that occasion when you can visit me. If you enter radiating good cheer, I'll resent it. "A lot she cares about what I've gone through!" I'll brood bitterly. If it's psuedo-cheer, I'll see right through it. If, on the other hand, your expression is lugubrious, I'll have no patience with you either. "A fine bedside manner she has!" I'll think, with withering scorn. Perhaps you'd better come in and glower-not at me, but at my unkind fate. And you can praise me for my fortitude, even though it's practically nonexistent.

Furthermore, if you plan to come in bunches and stand around my bed conversing among yourself on current affairs, please transfer your meeting to the lobby. I object to lying on the bed like an effigy, bathed in babble.

And as you love me, don't assure me that all is going well with everybody and everything while I'm stretched out like a useless hulk. Cheer me up, instead, with words that are music to a wife's ears, "Your husband looks like a lost sheep without you!" I don't wish my children to be undernourished or neglected, but to know that my family needs me will speed my recovery.

Let me continue, if I haven't already frightened away all prospective visitors. In hordes, you overwhelm me. My heart leaps up when I behold you singly, or in couples. It's no fun to have 12 visitors on one afternoon, then no one at all for the next few days. Find out who is coming and when. Then arrange to fill in a barren

Your visit can be a tonic. Give me a gentle hug or a loving pat that asks, "How's my darling?" Hold my hand, if only briefly, as though it's infinitely precious. There's no such thing as overacting your part. Devotion is my meat and drink. Secretly I suspect that the world would spin on its accustomed course, despite my early demise. Subconsciously I know that my friends and family are capable of adjustment, had I shuffled off this mortal coil. But I'm glad I didn't. And I'm glad to know that others are glad, too.

How do you show you're glad? It's simple. Don't breeze in, on your way to a cocktail party or theatre. Don't flaunt your good health in my pallid face. Don't try to gladden my heart with your prowess or to burden me with your problems. To be perfectly safe, stick to the most interesting subject in the world-me!

You might just relax and let me do the talking. Let me lament that hospital food has the inimitable flavor of oiled laundry. Let me complain about the nurse with the battle-ax technique. Let me mourn the fact that I am waked at dawn to wash my face.

Be my friend and listen with a therapeutic ear. Modest and unassuming as I've been taught to be, this is one time when I crave limelight. Here, in this strange new world, I lie in bed feeling like a statistic, a case history. During your visit you transform me into a fascinating individual. I'll consider you a brilliant conversationalist, as well as a friend in need, if you give me your rapt attention.

My delusions of grandeur won't last long. The day will soon dawn (I hope) when I wobble my way back into circulation again. When that heavenly time limps around, I won't have the effrontery to offer advice. Right now, if I have presumed, I hope you'll make allowances. I'm in a weakened condition, you know. I've just had an operation.







Sketch Pad Book

Complete series on sketching now available



THE editors have had abundant proof that the series of articles appearing regularly under the title Sketch Pad Out-of-Doors have been popular and helpful to many readers. The complete series written and illustrated by Clarence Tillenius is now available in book form. This will be of interest to the many who have written asking where they might obtain back copies of the magazine and those who by letter and telephone have urged that such a book be pub-

Young folk and older folk have shown an interest in learning how to go about sketching; what materials they should use and where to start. One week's mail brought a letter from a 12-year-old Ontario boy who greatly desires to become a "painter of animals," asking for more information about and from Mr. Tillenius-and a letter from a 60-year-old lady in Alberta who said: "I've never had instruction in sketching except the articles written by Clarence Tillenius. I want you to know that I have been encouraged to start sketching and have had fun doing it. My friends at least recognize the people and the scenes I draw."

Clarence Tillenius disclaims the title "teacher of art" and points out that in no sense is Sketch Pad a "textbook on art" - he asks the reader "simply to accompany an artist as he wanders about the country, gathering material."

Those who accept his invitation learn much more than pen, brush and paint techniques. For one thing they find that their companion is a naturalist of considerable authority, keenly observant of the characteristics, life and habits of the creatures he paints so skilfully: and for another, he is a keen and careful observer, who can open their eyes to many things which have hitherto gone unobserved: fleeting motion, shape and mood according to the time of the day or the season of the year. They will learn the useful habit of making frequent notes for future serious work.

Sketch Pad would make an excellent Christmas gift for a boy or girl or adult who has the desire or talent to express the charm and beauty of country scenes on paper. Order copies from The Country Guide, Winnipeg. Price postpaid \$1.



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The Country Boy and Girl



PLANS for Christmas are in the air—and secrets too! Schools, ehurehes and elubs are busy practicing for Christmas eoneerts. Perhaps your school would like to prepare this eoncert item-The Singing Christmas Tree.

The boys and girls wear white ehoir gowns made from two large pieces of sheeting sewed together at the shoulders with an opening left in the eenter large enough so that the gown ean be slipped over the head. Each ehild holds a large spruee bough in one hand and a flashlight in the other (keep the flashlight somewhat hidden from the audienee.) The girls wear tinsel in their hair. As you see by the sketch, the children stand on a set of steps in the triangular form of an evergreen tree. The stage should be dimly lit or a blue

spotlight eould be used. As the ehildren sing several chosen favorite Christmas carols they quietly flash on and off the flashlights to represent the twinkling lights on a Christmas tree.

A second group of children dressed in pyjamas could then run onto the stage, join hands and dance around the Christmas tree singing a jolly Christmas tune such as "We Wish You a Merry Christ-Unn Sankey mas" or "Jingle Bells" then wave to the audi-

Scrapper

ence and dance off stage as the eurtain lowers.

by MARY GRANNAN

LITTLE brown dog barked, and ran excitedly down the street. A grey pigeon flew hurriedly to a church steeple. A little red squirrel scampered up a tree trunk and was soon lost among the leaves. A little girl watched in wonder, and stepped into a doorway. It was clear that the dog, the pigeon, and the squirrel had scuttled to safety. Something was coming that frightened them. Just then, a kitten rounded the corner. He was a pretty fluffy little kitten and he walked proudly on velvet feet. The little girl laughed. "They can't have been frightened of you," she said, as she bent to stroke the kitten's soft black head.

The kitten snarled and showed his claws. The little girl left him and went into the grocery store. She knew the grocer very well, and she told him what she had seen.

The old grocer laughed. "That would be Scrapper," he said.

"Do you know that kitten, Mr. Poppety?" asked the little girl.

"I know him very well, Katy," said the grocer. "I've been chasing him out of my back shop for weeks.'

"Why?" asked Katy.

"Just because he comes into my shop, I suppose," said Mr. Poppety.

"Perhaps he's hungry," said Katy. "Perhaps he is, but I've enough work to do without looking after hungry cats. Mr. Beesley down the street has the same trouble with Scrapper. The other day that kitten was in his garbage can, and when the collector came to take it away, Scrapper snarled at him and scratched him."

"I guess you would have done the same, if you'd been that kitten, Mr. Poppety," said Katy. "I guess if you were hungry, and someone pulled away your food, you'd fight to keep it. Who owns that little kitten?"

"I don't think he belongs to anybody. He's just a homeless waif, who's always scrounging around," said the

Katy sighed. "I don't suppose anyone has even been kind to him. I think that's why he fights, Mr. Poppety. I think that's why he chases the dogs, pigeons and squirrels. He thinks everyone is against him."

"That sounds very wise for a little girl, Katy," said the grocer.

"Does it, Mr. Poppety?" laughed Katy. "I didn't know I was very wise." She bought the oranges and the soapflakes and the white pepper that her mother had sent her for. As she was leaving the store she said, "Do you know where Scrapper lives?"

Mr. Poppety didn't know, but he told Katy that he had often seen the kitten down by the docks, looking out toward the sea.

"I wonder if he is there now," said

Scrapper was there, and was crying. His tears were flowing from sad green eyes, and splashing on the rocks below. A water rat saw them. He clambered up the stone wall to investigate, and he saw Scrapper. He couldn't believe his eyes. He knew Scrapper, and had never seen him crying before.

"What's the matter, Scrapper?" he

"Don't call me 'Scrapper'," sobbed the kitten.

"It's your name, isn't it?" said the water rat.

"No," cried the kitten. "It's what people call me, but it's not my name."

"Something happened today, didn't it?" the water rat said. "Something happened to make you cry. What was

Scrapper said: "I met a little girl, and she spoke kindly to me. She was going to stroke my fur, but I snarled at her, and showed my claws. I don't know why I did it, Water Rat, it's just that everyone chases me, and says 'scat,' and nobody likes me. But the little girl seemed to like me. Do you think she did?"

"Yes, I do," said the water rat, "A nice little kitten like you should have a little girl. Where does she live?"

Scrapper shook his head. "I don't know exactly," he said, "but it must be near Mr. Poppety's grocery store. She went in there."

"We'll get the little brown dog to find her," said the water rat.

Scrapper shook his head. The little brown dog was afraid of him. He told this to the friendly rat. But the water rat said the little dog would forgive Scrapper, if he promised not to chase him and the pigeons and the squirrels. "They'll understand," said the rat. "They'd be glad to be friends with you too, if you'd let them.'

The water rat was right. The brown dog was glad to forgive, and set out that very afternoon to find the little girl, who lived in the vicinity of Mr. Poppety's store.

It didn't take the little dog very long to find Katy Casey. She was singing to her doll, who was propped up against a tree on the lawn.

"I met a little eat today, I thought him very sweet. His eyes were green, his eoat was blaek,

He had four velvet feet. But when I stopped to speak to him He snarled and ran away. I'm sorry for the little eat, The cat I met today.

The little eat needs someone to Be kind to him and good.

To play with him and give him milk And lots of niee warm food. I wish he were my little eat, I wish that he were mine. We'd play together in the sun And have fun all the time."

The little brown dog knew how to get the little girl to follow him down to the docks, and Scrapper. He seized the doll, and dashed down the street. Katy Casey ran after him. The dog dropped the doll near the little black kitten. Katy's eyes widened, and she laughed. "You did it on purpose, didn't you Little Brown Dog? You wanted me to find Scrapper."

"Wow wow," said the little dog.

"Would you like to live with me, Scrapper?" Katy asked.

'Yieow," said Scrapper softly.

'You snarled at me today and tried to scratch me. You wouldn't do that again, would you?" said Katy.

"Nieow," said Scrapper.

The next day, Katy Casey went into Mr. Poppety's shop again. His eyes opened wide when he saw the black kitten in her arms. "That's Scrapper, isn't it?" he said.

"No," said Katy, firmly. "He was Scrapper, but he isn't now. Now he's 'Sweetie Pie'."

"I just can't believe it!" said Mr. Poppety and then he laughed. So did the water rat, when he heard it.

Sketch Pad Out-of-Doors

No. 57 in series—by CLARENCE TILLENIUS



WHEN planning a watercolor, one is sometimes tempted to seize the brush and begin painting at once without any preliminary drawing. Once in a while such a procedure is successful and a very attractive, freely handled watercolor results. More often, though, one gets well into the painting only to discover that without the guidance of a pencil drawing underneath, the washes are impossible to control and the result is

When making a preliminary pencil sketch which you intend to paint over in watercolor, it is best to draw very lightly, since you will leave the pencil drawing to show through the transparent washes. The thing to do is to

draw very carefully the contours of shadows, and indicate with very delicate flat shading the areas of deep color or shade.

However, even where you see patches of extremely dark color, do not make them black with pencil. For one thing, heavy pencil blacks are hard to paint over, and even when they are covered, a very muddy, unpleasant effect results. Even if you are not making a watercolor sketch, it is useful to practice the kind of drawing shown here . . . shapes lightly outlined and shadows developed just enough to indicate areas and changes in contour. No matter how light the lines, any drawing is good if the values are correct.





Orville Monk (left) canvassed in Brant Township. Center: Some hogs at Toronto stockyard. Ed Roberts (right) is in charge of the Arva assembly yards.

Ontario Board Tightens Hog Control

The struggle to get Ontario hogs out on the open market constitutes the present critical phase of hog marketing

ACTIVITY in selling Ontario hogs has become at least one of the foremost farm topics in the province. Since 1936, Ontario has had a hog producers' marketing scheme in effect. It is operated by the Ontario Hog Producers' Marketing Board and

functions under the Farm Products Marketing Act first passed by the Ontario Legislature in 1937 and amended several times since. The Act is administered for the Government by the Ontario Farm Products Marketing Board, which approves and exercises general supervision over the approximately 20 marketing schemes now in operation in the province.

The Ontario Hog Producers' Marketing Board, though administering the hog marketing scheme, does not actually market the hogs. This vital task is performed by the Board's marketing agency, the Ontario Hog Producers' Co-operative, which was brought into being in April 1955.

The formation of the Co-operative Selling Agency, and the decision, at more or less the same time, to establish a series of regional assembly points for market hogs throughout the province, was a further progressive step. More recently, a farm-by-farm canvass of all hog producers in some 32 counties, has combined to focus the attention of hog producers on what must, under any circumstance, prove to be a difficult farm marketing situation. By August 31 this year, 30,943 hog producers had been canvassed, of whom 89.38 per cent, or 27,797 had signed membership cards in the Ontario Hog Producers Cooperative and agreed to support the marketing program of the Marketing Board. These results represented complete reports from 11 counties and incomplete reports from 11 others. The work involved some 5,000 volunteer canvassers and represented an educational and organizational campaign unprecedented in Canadian agricultural history since the formation of the Western Wheat Pools in 1923 and 1924.

ROCAL points of the big program have been the counties of Grey and Bruce. Immediate objective is to cut down direct-to-packer shipments, and bring all possible hogs onto the open market at Toronto and the seven regional assembly points.

A year ago, the hog marketing situation in Grey and Bruce Counties was about as elsewhere—only about eight per cent of market hogs reached the open market. This was the situation which the Ontario Hog Producers' Association, the original sponsor of the hog marketing scheme, opposed. It contended that effective bargaining for price was impossible when the hogs were already in the plant. Hogs, they argued, should be in a neutral position, or under the control of a producer agency until price negotiations were completed.

Grey and Bruce Counties had long been a stronghold of the Association, and local producers there first set up 15 small assembly shipping points. From these, the Toronto office was kept informed as to the number of hogs available, and hogs were sold from these yards f.o.b.

Meanwhile, the province-wide canvass was put under way. The Hog

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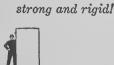
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Marketing Co-op was already the largest co-operative in the province, having handled payments amounting to \$72,766,141 for the year ending May 25, 1956.

Chairman of the Brant Township canvass in Bruce County, for example, was Orville Monk, a young farmer producing about 100 hogs per year. He saw that 30 farmers were visited, of whom 90 per cent were persuaded to join the Co-operative. Open market shipments rose to 51 per cent. During the summer, local meetings elsewhere asked for a directional campaign. The two fieldmen for the Ontario Federation of Agriculture, Messrs. Boynton and Oswald, had a joint office at the border town of Elmwood. Sympathetic press, radio and T.V. services were active in the area.

O-OPERATION of the central office of the Co-op in Toronto was necessary, because the office had the records of hogs shipped direct to plants. The Toronto office sent this information along to the Elmwood office each week; and this office in turn notified farmers weekly through advertisements in the local papers of the names of truckers who disregarded the order of the board by delivering direct to the packers. Farmers whose hogs had gone direct were then visited, and any antagonism to the plan overcome, if possible, in an endeavor to make it 100 per cent effective. In six weeks' time 81 per cent of the hogs from the area were coming to the open market.

Charles McInnis, president of the Hog Producers' Association, has been responsible for the development of organized hog marketing in Ontario, more than any other single person. He has observed, however, that no matter what legislation may be in effect, it is impossible to go faster than public opinion will permit. This is probably why a stronger bid for complete control of Ontario hogs has not been made before now. He and his directors want to be certain that just about every producer is sold on the marketing system supported by the Association.

More recently, a forward step has been made following discussions with the meat packing industry. It was announced that "meat processors in effect will co-operate with the Ontario Hog Producers' Marketing Board in carrying out two recent orders passed by the Board, providing the hog producers of Ontario sell their hogs in a manner acceptable to the processors."

The two orders involved require that all shippers of hogs in the counties of Grey and Bruce, deliver such hogs only to three authorized points (Toronto, Barrie and Kitchener); and that meat packers in Ontario buy all Grey-Bruce hogs only from these three authorized points. Some of the large packers would prefer to buy auction, rather than from a single individual salesman representing the producer. The producers, according to Mr. McInnis, "feel that they are entitled to the right enjoyed by other industries of selling their goods by private treaty, through the services of experienced salesmen. Also, we feel that since these hogs are the property of the producer, it is the producer who should decide what the selling policy will be." Meanwhile a small committee has been set up to further consider the marketing procedures.



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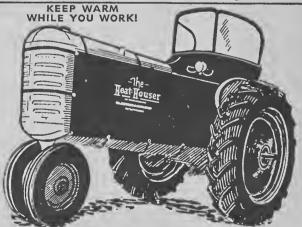
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by SYDNEY MOORHOUSE



Hugh Barr of Northern Ireland became World Plowing Champion for the third year in succession, scoring 165.75 points out of a possible total of 200.

CAIRN of flint stone, surmounted by a model of the "Golden Plow" presented by the Canadian members of the World Plowing Organization, commemorates the world championship meeting which was held on Warborough Farm, Shillingford, south of Oxford, England, on October 11 and 12. Located at the entrance to the farm, the cairn was unveiled late on the second day of the event by the Duke of Gloucester. Soon afterwards the loud speaker brought the results of the 1956 championships: First, Hugh Barr, Northern Ireland, 165.75 points (possible 200); second, Arne Braut, Norway, 154.9; third, E. J. Walker, Great Britain,

won at Uppsala, Sweden, and in 1954 in Killarney, Ireland. Though he is only 30 years old, the time had come to say farewell to as great a champion as will ever gain possession of the Golden Plow.

This year's championships brought out 25 competitors from 13 different countries, including Jim Brooker, who had come 12,000 miles from his farm near Canterbury, New Zealand. Each had to turn over about half an acre of stubble. By the end of the first day, it seemed quite likely that the work of the British, Northern Ireland, and Canadian plowmen and possibly the Norwegian, was greatly superior to that of the others.



Bob Timbers of Stouffville, Ontario, concentrating on the job at Shillingford, England. His work earned him fourth place in the world championship.

152.65; fourth, Bob Timbers, Canada, 152.40—and so on.

Three hours before, as the red rocket announced the end of the plowing, I had stood by the tall champion from Northern Ireland, and suggested that it seemed good enough to warrant him a chance of defending his title again next year. But Barr shook his head: He was determined to stick to the decision made before this year's match to retire from international contests of this kind. A year ago, he had

A T Uppsala a year ago, the Canadian, Joe Tran, had gained a commanding lead on the first day; and I expected to find, this time, that his two countrymen, Bob Timbers, Stouffville, and Edwin R. Demman from Manitoba, who was third to Timbers in the Canadian International Plowing Match, at their best on the stubble. Unfortunately, neither of the Canadians were at their best on the first day, and their work, though adequate, was hardly up to world championship standards.

Barr, on the other hand, made one of the best openings of the day, and finished in great style. At the end of the afternoon his many supporters felt that he was already well on the way toward his third championship success. The two British representatives, Ted Walker and J. D. Lomas, did some polished work, burying the trash much better than the continental plowmen, as did also Northern Ireland's other representative, W. L. McMillan.

The Americans, Donald Barbee, Conover, Ohio, U.S. National Level Land Champion, and Eugene Holmes, Minnesota, National Contour Champion, were most unimpressive. Their plots, slowly executed almost to the point of painfulness, were surprisingly rough. The continental plowtime. He did succeed in beating the clock, although I also wondered if his work had suffered a little in the process. Actually, his grassland plot was firmer than his stubble, and did much to bring him into fourth place with only .25 points separating him from the British high-cut champion, Ted Walker. Indeed, a little more accuracy toward the end, or his stubble plot up to his usual standard, might easily have changed the placings. Edwin Demman, the Manitoba plowman, was less certain, and finished in tenth place.

Of the two British competitors, Walker settled down more quickly than his colleague Lomas, who finished in sixth place. Like Demman, he was somewhat slow over his early furrows and in the closing stages was apt to be hurried.



The Duchess of Gloucester with the president, J. D. Thomas of Canada, after she had unveiled a memorial cairn surmounted by a golden plow from Canada.

men were far too quick, though Braut was almost in a class by himself as far as the European competitors were concerned.

ON the second day—grassland—the plowmen had to work on the one-year ley, which appeared to be stalky. The ground was dry, and furrows apt to crumble.

At the beginning, Barr had set a high standard; and on the second day, he rapidly settled into his stride, putting the grass away neatly and turning up a good-looking set of triangular prisms. Once again his finish was the best of the day.

At one end of the field, Bob Timbers was making a determined bid to challenge Barr, but he appeared to spend too much time over his opening work. With less than half-an-hour to go, I wondered if he would finish in

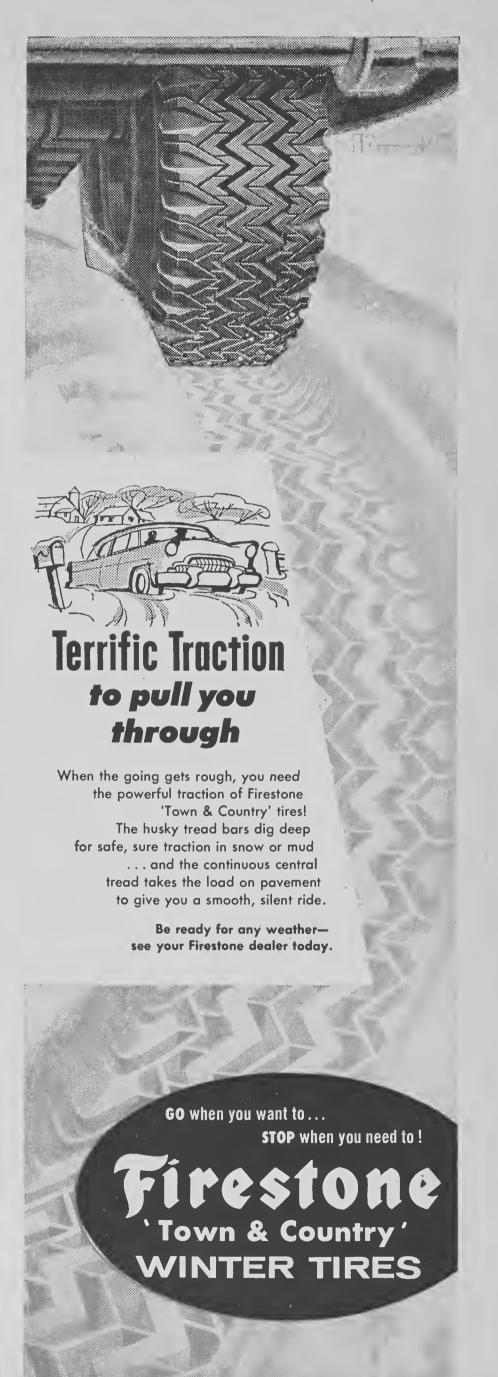
Here again the Americans were disappointing. It would seem that the plowmen south of the U.S.-Canadian border will have to revise their ideas on championship work, if they are to be in the picture on their home ground 12 months hence.

Braut, only 20 years of age, though not as polished a plowman as the winner, well merited his high placing. The French national champion, Jean Jacob, turned over a good set of furrows to get fifth position.

Curiously enough the British National Championships held on the day preceding the beginning of the world event, caused both Walker and Lomas to lose their titles, and therefore the chance of competing at Peebles next autumn. They are succeeded by R. J. Miller, Somerset, high-cut champion, and J. Mason, Derbyshire, as whole work champion.



International judges for the match were (left to right) Mr. Barre, U.S.A.; Jules Colu, Belgium; Martinus Matthysen, Holland; and Robert Peron, France.



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Success with Marketing Boards

ON the 19th of this month the Supreme Court of Canada will hear argument on further questions with reference to the case now before it regarding Marketing Board Legislation. We do not wish to discuss the Legislation before the court, or any questions relating to it. It is timely, however, to call attention to an important consideration which will largely govern the success of Marketing Boards, however, and wherever, they may be established.

The Canadian Federation of Agriculture, in a recent policy statement, has expressed the view that, properly conceived and operated, marketing boards can be regarded as an extension of the co-operative principle. This view cannot be achieved by a simple comparison between normal voluntary working together associated with co-operative organizations, and the compulsory element introduced by marketing legislation. Few of us enjoy being compelled to do anything.

Despite this recognized fact, however, the situation remains as before: With very few exceptions, 50 years of co-operative effort have failed to develop co-operative marketing of farm products to the point where farmers could put themselves in a position of equality with a buyer. Marketing conditions and markets have changed a very great deal over this long period. If anything, the ability of farmers to do their own individual marketing has declined, whereas the ability of buyers to buy skilfully and to advantage has increased. If marketing now looms up,-as most people think it does-as a very important aspect of farming, and if co-operative farming has not as yet succeeded in putting agriculture in a position of equal advantage with the buyer, what is the next step? Is there a half-way point between compulsion and voluntary effort? Or is the choice to remain as we are, or accept a degree of compulsion?

This point, only farmers may decide. What is becoming very clear indeed, from observation of the experience of existing marketing board schemes, is that for every new scheme, co-operation must take over under a different guise, or the scheme will fail. The Ontario Hog Producers Marketing Board is an illustration in point. Facing a very difficult situation in any event, the Hog Marketing Board made little progress, until it decided to set up a co-operative selling agency and to inaugurate a province-wide program of education as to the purposes of the Board. This program has not yet been completed. Nevertheless, such successes as have been achieved so far-initially in the counties of Grey and Brucebear out what was said in these columns three months ago that "it will be the co-operatively minded producers who must be depended upon to see a newly established marketing board through its first difficult years."

Compulsion is not an easy way around a barrier to progress. It can only be justified if the greater good of the larger number is involved, and if the barrier is impassable otherwise. Even then there is no magic in a law which will make it work for long, without the presence of a strong co-operative spirit.

National Farm Radio Forum

National Farm Radio Forum began its seventeenth season on Monday, October 29. Sponsored by the Canadian Broadcasting Corporation, the Canadian Federation of Agriculture, and the Canadian Association for Adult Education, this Monday evening national farm radio program has two major purposes. The first is to provide farm families with unbiased information on subjects of

farm interest; and the second is to encourage the formation of neighborhood listening and discussion groups, which are called farm forums. Two secondary purposes are: to facilitate the use of good discussion methods in the forums; and to assist forums in making their forum conclusions effective.

Notwithstanding the undoubted potential value of the Farm Radio Forum idea, and certainly without the slightest wish to criticize the amount of money, care or interest which the CBC has devoted to this program over a long series of years, it is true that the program has not achieved what was hoped for it at the beginning, or by its most enthusiastic supporters ever since. There are several reasons for this limited failure. One, we believe, is that the program is national, not only in the extent of its distribution, but in the choice of subjects to be discussed. Certainly farmers should be interested in those aspects of agriculture that are common to all areas; but the fact is that by far the largest number of people, including farmers, are more interested in local, or regional matters.

Proof of this fact, which the CBC has been slow, or unwilling to recognize, is present in abundance. A farm forum institute was held for three days at the University of Saskatchewan last month. This group of seventy people had no simple answers for the problems involved in National Farm Radio Forum, but they did agree that at least some regional programs would help. Likewise, there was general agreement that the majority of farmers are reluctant to set aside one night every week throughout all of the winter months, on which to drive considerable distances over uncertain roads in uncertain weather, to listen to a program which they were not sure they would enjoy. The competition with TV and curling were other factors. There also were the quality of the discussions in the groups, and the quality of the programs.

A Farm Radio Forum Research project is under way in Saskatchewan during the present season. It will undoubtedly produce a considerable amount of useful information. It may be that it will point, on the one hand, to the advisability of modifying past policy to include a definite proportion of programs which have regional interest; and on the other hand, suggest the advisability of as many home listeners as possible, and fewer forum meetings. Whatever the conclusions from the project, individual community interest will decide the point for that community. The success of the Monday evening farm radio program will depend on the sustained quality of the programs themselves; but the success of the Farm Radio Forum may depend quite as much on the ability of the group leader to involve all, or nearly all, of the group members in the discussion, and to keep it moving.

Too Many Farmers

A N increasing number of people in both Canada and the United States are reluctantly reaching the conclusion that there are now too many farmers in both countries. This is a fact which is very hard for many people to accept. It is especially hard for many farm families who have farmed all their lives, and perhaps their fathers, grandfathers and greatgrandfathers before them. It seems unfair. For thousands of years agriculture was the oldest and the most vital of all industries. Man must have food to live and there have always been millions who have had less than enough to be healthy. Even today, half the world lives on less than the recommended minimum of 2,200 calories per day; and it is hard, if not impossible, to understand why there are said to be too many farmers, in view of this fact.

Actually, the decline in the farm population has been a long and more or less steady process. As towns and cities grew, the emphasis tended to be on the increasing percentage of urban people in the country, rather than on the declining percentage of farm folk. Emphasis the other way first got real recognition during the drought period of the thirties, when the problem of too many farm folk was accentuated by an influx of jobless urban workers who returned to the country to sit out the period of unemployment. The war years masked the continuing decline in farm population by a

general prosperity during which both farm costs and prices were controlled. Nevertheless, the decline continued from about 30 per cent of total population prior to World War I, to about 20 per cent at the present time. Farms, meanwhile, have grown larger.

Despite these serious declines in farm numbers, they have been accompanied by huge surpluses of certain food commodities, especially of wheat. For the first time in the history of Canada we have had a butter surplus; and the United States Government has several billion dollars tied up in surpluses.

Agriculture is a very complex industry and no single factor or group of factors can explain its present perplexity. A few of the more important may be mentioned here. First is the transformation and increase in production efficiency due to farm mechanization and technological advance,-which includes the whole range of new knowledge and its application, from antibiotics and better bred varieties, to virus control and weed killers. Another factor is the remarkable increase of farm production in Europe, where our principal markets are located, coupled with the defensive devices established by foreign governments for the protection of their national economies during the period since the war. A third is the remarkable series of good crop years which have been experienced in the same period; and fourth, is the fact that agriculture lias not adjusted itself rapidly enough to the changing conditions of both production and marketing, to provide, from total net farm income, a fair income for all the families presently engaged in the industry. Regrettable as it may seem to many, the last is by no means the least important. Farmers themselves must largely decide how long they will continue to divide the income pie into such small pieces. If the agricultural family were not so large the pieces could be bigger.

After the Drama

BY the time this is read, readers will have witnessed what is not yet completed at this writing, namely, the final result of an American presidential election. What will be of outstanding interest to Canadian agriculture is the reaction of the American farmer and his influence on the result of the election.

For the fiscal year ending June 1, the U.S. Government sold, or otherwise disposed of, farm products costing \$2,140,089,174, for which the Commodity Credit Corporation got, or will get, no more than \$599,360,885. Typical in kind, though not in quantity, was the deal concluded with India not long ago, by which \$200,000,000 worth of wheat, plus large quantities of cotton, rice, tobaccó and dairy products, costing the Commodity Credit Corporation, in all, \$625,300,000, was disposed of to India for \$305 million dollars, less \$54,200,000 for ocean freight charges.

Also, during the last fiscal year, some 4.8 million U.S. farmers were the direct beneficiaries of total Federal Government expenditure amounting to around \$5 billion, including the cost of the U.S. Department of Agriculture. For the fiscal year 1957-58, this figure may rise by more than a billion dollars, owing to the Soil Bank legislation, by which Congress authorized the administration to spend up to \$750 million per year for acreage reserve payments, and a further \$450 million per year for conservation reserve payments. Soil Bank expenditures during the current fiscal year are not expected to reach more than \$265 million.

Both political parties offered the American farmer much the same amount of money, except for the difference in price support policies. The Republicans offered a continuation of flexible price supports, while the Democrats offered a return to fixed 90 per cent of parity on basic products. Our only regret is that we cannot really comprehend a billion dollars. We suspect that the majority of American farmers cannot do so either. Consequently, the result will have been based on a wide variety of opinion and a balancing of personal considerations, which, on a nation-wide basis, is what wins elections. This, in fact, is what makes a democratic free election as uncertain, in advance, as it often is.

Science And the Farm

From vacuum cleaners for salvaging seed to the virus that sheds its coat to work

Bigger harvests of grass and clover seeds are promised by an experimental device under test by the U.S.D.A. Research Service in the Oregon Agricultural Experiment Station. Much of the seed now lost from shattering, prior to, and during combining, is believed reclaimable by a combination vacuum cleaner and agitator, on which short rotating chains attached to a cylinder, loosen the dropped seeds from the ground, which are then sucked up by the machine attached to the combine. During testing, an experimental model is reported to have reduced shatter losses by 75 to 95 per cent. Working on sub-clover seed, it salvaged 938 pounds per acre, compared with 235 pounds harvested by windrow or combine methods. Gain per acre was worth \$470.

From South Africa and the University of Natal comes a report of the fifth authenticated case of an animal giving birth to offspring of both sexes, without fertilization by a male. In this, an albino female rat bore a litter of seven, and 23 days later a litter of eight, after having been kept securely isolated since six days before the birth of the first litter. The other four cases included two of mice, another of rats, and one of guinea pigs.

Before too long, perhaps, farmers will be able to purchase tractors with built-in electricity generators. Such a tractor has been tested by the U.S. Department of Agriculture. If the device is finally approved, it will mean that the same tractor could supply normal and emergency power for almost any farm motor, and keep milk coolers and farm lights going when power lines have been interfered with. It could also be used to take electricity to a field not reached by power lines. V

Cows suffer more from the heat than do human beings. The heavier the breed, as a rule, the more they suffer, because they cannot perspire and get rid of the heat radiated by the sun. Holsteins suffer more, because they have less skin area per pound of weight, but the Brahman, also a heavy breed, has "built-in radiators," in the form of big ears, dewlaps, and a navel flap, the extra skin of which helps to dissipate the heat. Some tests in relation to heat tolerance have been made by the U.S.D.A. and Missouri Experiment Station dairymen. Hair color had some effect on the toleration of radiated heat, but most significant was the ability of cows to change the texture of the coat from coarse, shaggy hair, to fine, glossy hair, which absorbs less and reflects more heat.

Eggs without shells will shortly be on the market in New York State. Professor L. B. Darrah of Cornell University, thinks egg shells are not very good containers: they break easily and are full of pores which let in bacteria. He and his associates will begin trying out the market with eggs in plastic packets, each with 12 cup-like compartments, and each compartment holding one or two eggs, depending

on size. A machine will break the eggs, drop them into the cups, add carbon dioxide as a preservative, seal a plastic film over each cup, and the job is done. The housewife can see through the transparent polyethylene packet, cut off one or more of the cups as she needs them, drop them into hot water for boiling or poaching, strip off the top film and serve the eggs right in the cups. Slick, eh?

Rain drops fall at a speed of 500 to 1,000 feet a minute. Two U.S. Air Force scientists have recently studied about 2,000 clouds over Puerto Rico

and over the Midwestern and South-western States. They claim to have discovered that giant sulfate particles inside the cloud pick up moisture from the cloud droplets, until drops are formed large enough to fall. This theory would appear to invalidate the usual explanation that formation of rain involves the prior presence of tiny ice crystals which are formed around minute dust nuclei. It is believed to cast serious doubt on the effectiveness of cloud seeding for the purpose of inducing a rainfall.

A virus entering a cell of the organism it attacks, may take as little as one-tenth of a second, or as much as ten seconds, to effect entry. Scientists seem agreed that the virus attaches itself to its host at the tip of its tail. It leaves its outer coat outside while the inner part enters the cell and multiplies.

Mellorine is an ice cream substitute which originated in the Texas State Department of Health and is now legal in at least nine states, Alabama, Arkansas, California, Illinois, Missouri, Montana, Oklahoma, Oregon and Texas. Vegetable or animal oils have been substituted for the butterfat normally found in ice cream and Mellorine is difficult to distinguish from ice cream even in the laboratory. Even the U.S. federal government is confused. Over two years ago hearings were held looking for the development of standards and definitions for ice cream and "related" products. Two years later no federal standards had been established despite 22,555 pages of testimony and over 400 exhibits. Ice milk is a dairy product with more milk solids and fewer calories than either ice cream or Mellorine. Ice milk is sold in 41 states and the district of Columbia.





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